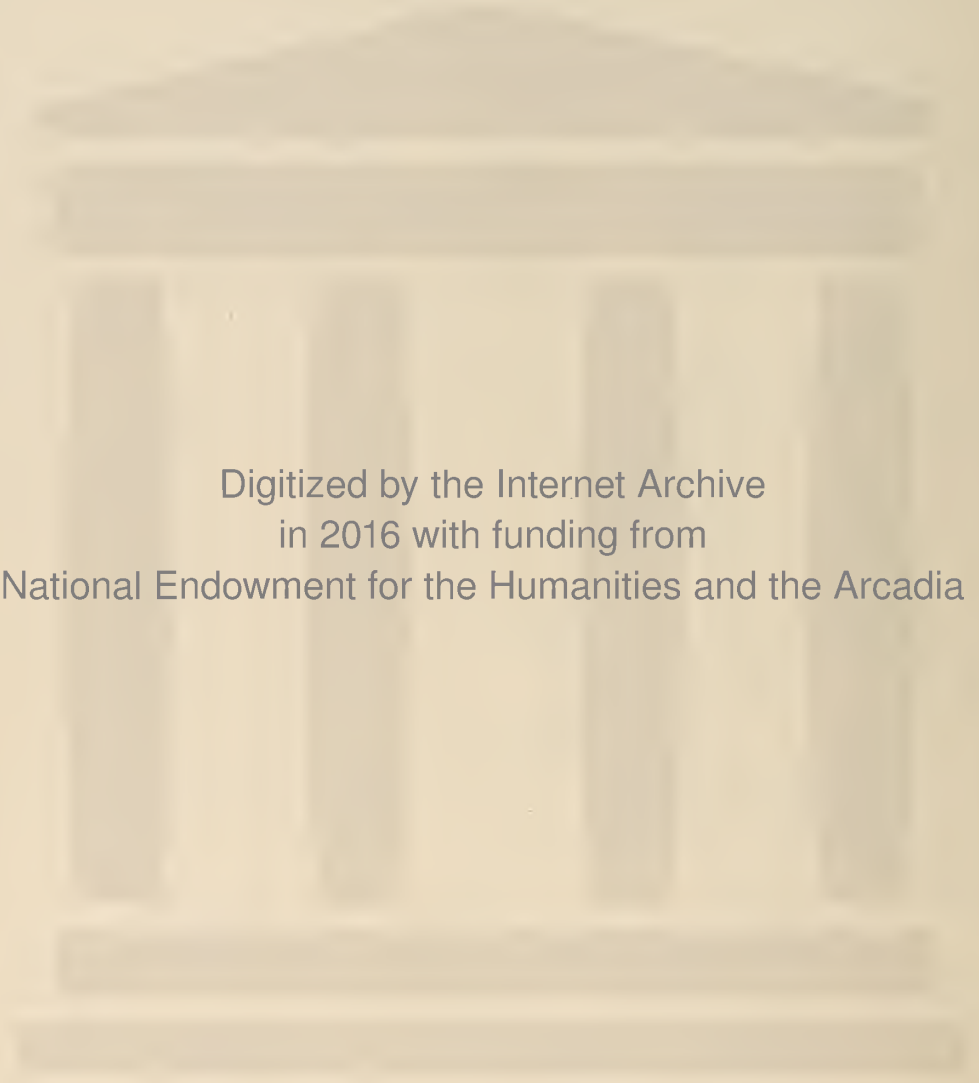
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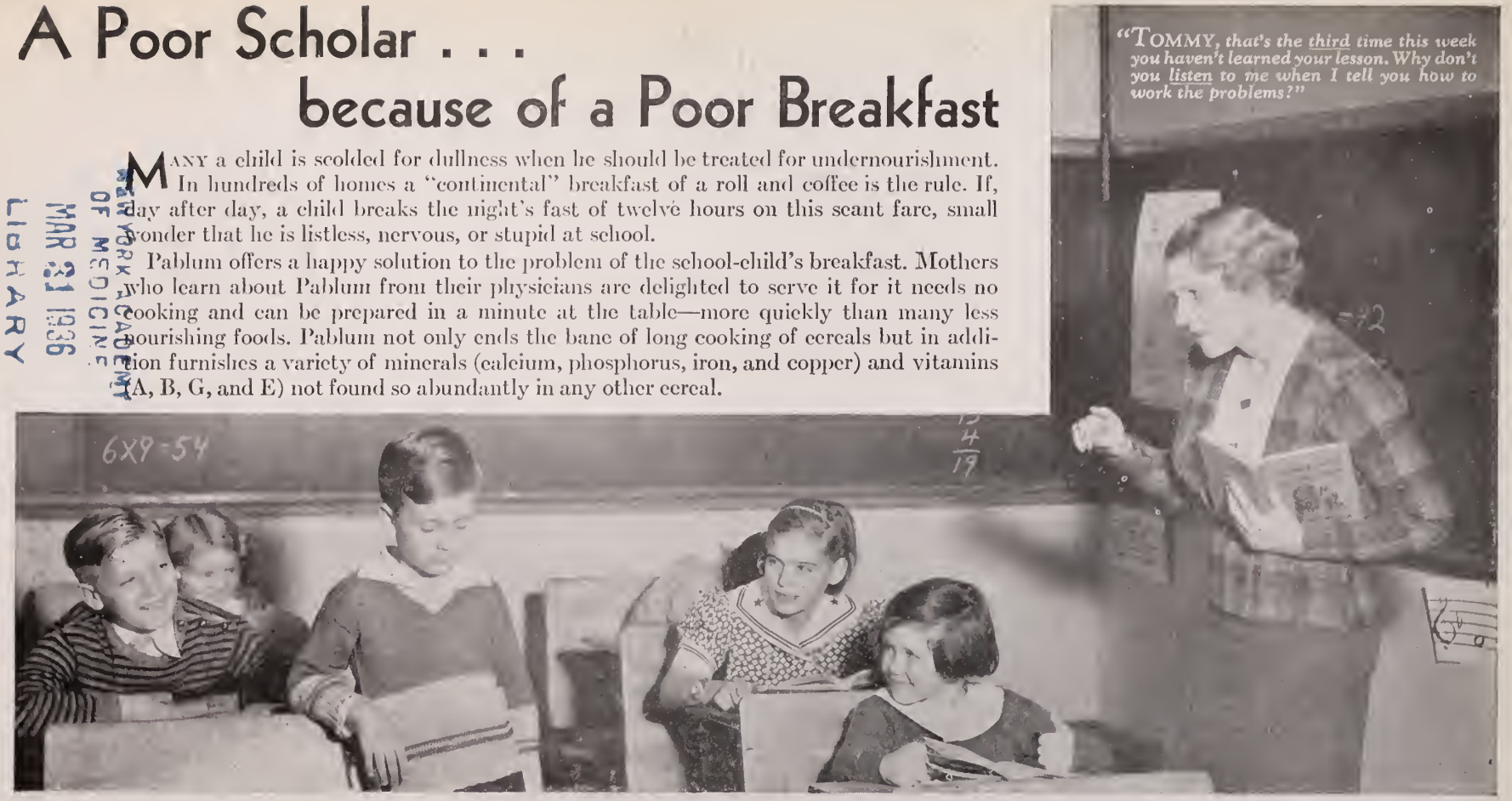
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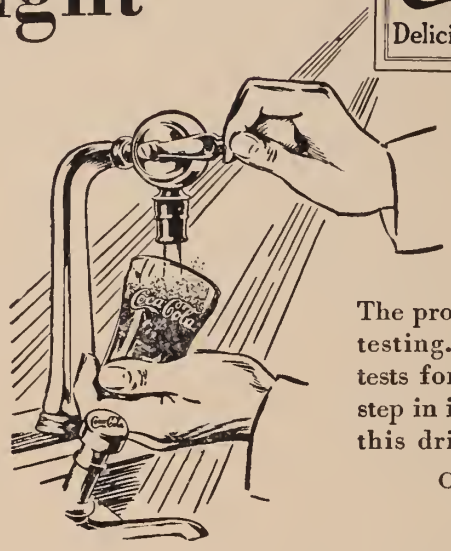
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Allen	A. O. Miller	Petroleum	January 23
Anderson	J. B. Lyon	Lawrenceburg	January 7
Ballard	F. H. Russell	Wickliffe	January —
Barren	Paul S. York	Glasgow	January 16
Bath	H. S. Gilmore	Owingsville	January 14
Bell	J. G. Foley	Pineville	January 11
Boone	R. E. Ryle	Walton	January 16
Bourbon	W. B. Hopkins	Paris	January 17
Boyd	R. G. Culley	Ashland	January 1
Boyle	P. C. Sanders	Danville	January 8
Bracken	J. M. Stevenson	Brooksville	January 7
Breathitt	O. M. Goodloe	Jackson	January 15
Breckinridge	J. E. Kincheloe	Hardinsburg	January —
Bullitt	S. H. Ridgeway	Shepherdsville	January
Butler	G. E. Embry	Morgantown	January 2
Caldwell	W. L. Cash	Princeton	January 1
Calloway	A. F. Russell	Murray	January 3
Campbell-Kenton	Luther Bach	Bellevue	January 3-17
Carlisle	G. W. Payne	Bardwell	January 1
Carroll	J. M. Ryan	Carrollton	January 8
Carter	W. S. Hawn	Grayson	January 8
Casey	Wm. J. Sweeney	Liberty	January 24
Christian	M. A. Gilmore	Hopkinsville	January 15
Clark	R. H. Scobee	Winchester	January 18
Clay	J. L. Anderson	Manchester	January —
Clinton	S. F. Stephenson	Albany	January 19
Crittendon	C. G. Moreland	Marion	January 14
Cumberland	W. F. Owsley	Burkesville	January 2
Daviess	I. A. Thorpe	Owensboro	January 8-22
Elliott			
Estill	Walter Cox	Irvine	January 9
Fayette	John Harvey	Lexington	January 15
Fleming	J. B. O'Bannon	Flemingsburg	January 9
Floyd	E. E. Martin	Allen	January 11
Franklin	W. S. Snyder, Jr.	Frankfort	January 3
Fulton	Glynn F. Bushart	Fulton	January 9
Gallatin	J. M. Stallard	Sparta	January 17
Garrard	B. Earl Caywood	Lancaster	January 17
Grant	C. A. Eckler	Dry Ridge	January 16
Graves	H. H. Hunt	Mayfield	January 1
Grayson	C. F. Blankenship	Leitchfield	January 31
Green	S. J. Simmons	Greensburg	January 7
Greenup	Carl M. Gambill	Grecnup	January 11
Hancock	F. M. Griffin	Hawesville	January 7
Hardin	D. E. McClure	Elizabethtown	January 10
Harlan	Clark Bailey	Harlan	January 26
Harrison	D. E. McClure	Elizabethtown	January 7
Hart	S. F. Richardson	Munfordville	January 1
Henderson	Walter O'Nan	Henderson	January 14-28
Henry	Owen Carroll	New Castle	January 28
Hickman	Chas. Hunt	Clinton	January 3
Hopkins	David L. Salman	Madisonville	January 3
Jackson			January 5
Jefferson	Chas M. Edelen	Louisville	January 7-21
Jessamine	J. A. VanArsdall	Nicholasville	January 24
Johnson	P. B. Hall	Paintsville	January 12
Knott	M. F. Kelley	Hindman	January 26
Knox	F. R. Burton	Barbourville	January 25
Larue	D. W. Gaddie	Hodgenville	January —
Laurel	Oscar D. Brock	London	January 9
Lawrence	W. C. Gose	Louisa	January 21
Lee	W. D. McCullom	Beattyville	January 12
Leslie	John H. Kooser	Hyden	January
Letcher	R. Dow Collins	Whitesburg	January 29
Lewis	J. D. Liles	Vanceburg	January 21
Lincoln	Lewis J. Jones	Houstonville	January 18
Livingston	Wm. C. Davis	Salem	January
Logan	Walter Byrne, Jr.	Russellville	January —
Lyon	H. H. Woodson	Eddyville	January 1
McCracken	Leon Higdon	Paducah	January 9-16
McCreary	R. M. Smith	Stearns	January 7
McLean	G. L. Thompson	Calhoun	January 10
Madison	Hugh Mahaffey	Richmond	January 17

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Marion	W. C. Guffey	Lebanon	January —
Marshall	L. Henson	Benton	January 16
Mason	Allen F. Murphy	Maysville	January 9
Meade	A. A. Baxter	Brandenburg	January 24
Menefee	E T. Riley	Frenchburg	January
Mercer	J. Tom Price	Harrodsburg	January 8
Metcalfe	P. W. Bushong	Edmonton	January —
Monroe	Geo. E. Bushong	Tompkinsville	January
Montgomery	D. H. Bush	Mt. Sterling	January 8
Morgan	W. H. Wheeler	Betsy Sayne	January —
Muhlenberg	G. L. Simpson	Greenville	January 8
Nelson	R. H. Greenwell	Bardstown	January —
Nicholas	T. P. Scott	Carlisle	January 21
Ohio	Oscar Allen	McHenry	January 2
Oldham	S. J. Smock	LaGrange	January 8
Owen	K. S. McBee	Owenton	January 3
Owsley	D. E. Wilder	Booneville	January 7
Pendleton	W. A. McKenney	Falmouth	January 9
Perry	R. L. Collins	Hazard	January 14
Pike	M. D. Flanary	Pikeville	January 7
Powell	W. Johnson	Stanton	January 7
Pulaski	M. C. Spradlin	Somerset	January 10
Robertson			January 21
Rockcastle	Lee Chestnut	Mount Vernon	January —
Rowan	G. C. Nickell	Morehead	January 22
Russell	J. B. Scholl	Jabes	January 14
Scott	F. W. Wilt	Georgetown	January 3
Shelby	W. E. Morris	Shelbyville	January 17
Simpson	N. C. Witt	Franklin	January 8
Spencer			
Taylor	W. B. Atkinson	Campbellsville	January 10
Todd	B. E. Boone, Jr.	Elkton	January 2
Trigg	H. L. Wallace	Cadiz	January 30
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	January 30
Warren	Hal Neal	Bowling Green	January 9
Washington	J H. Hopper	Willisburg	January 16
Wayne	R. E. Teague	Monticello	January 2
Webster	C. M. Smith	Dixon	January 25
Whitley	C. A. Moss	Williamsburg	January 3
Wolfe	G. M. Center	Campton	January 7
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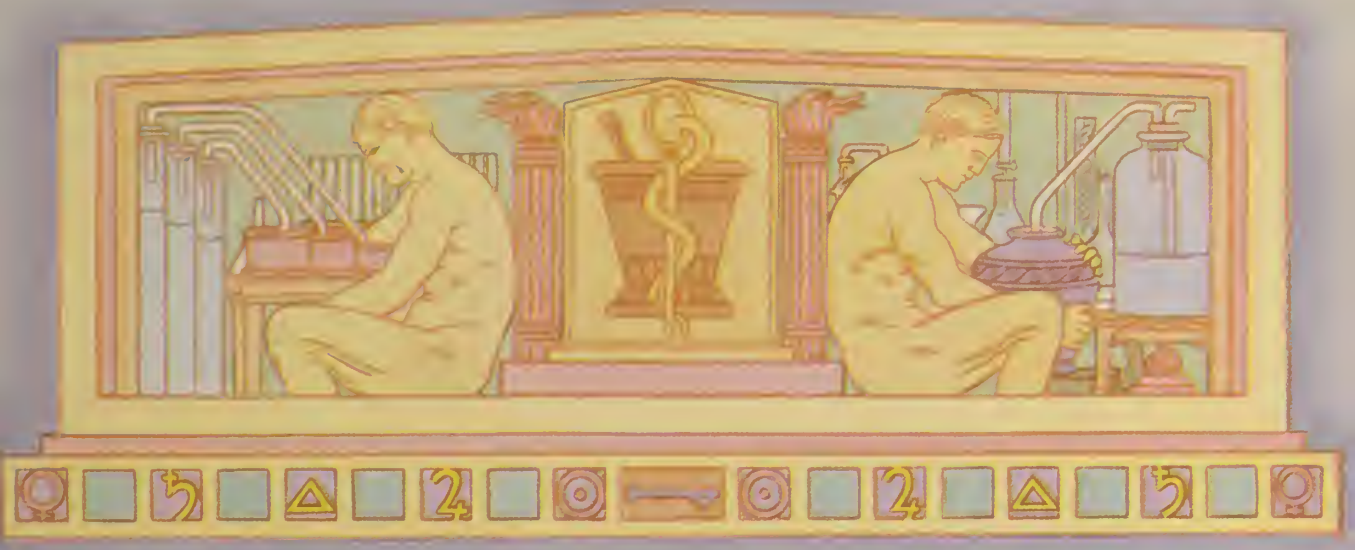


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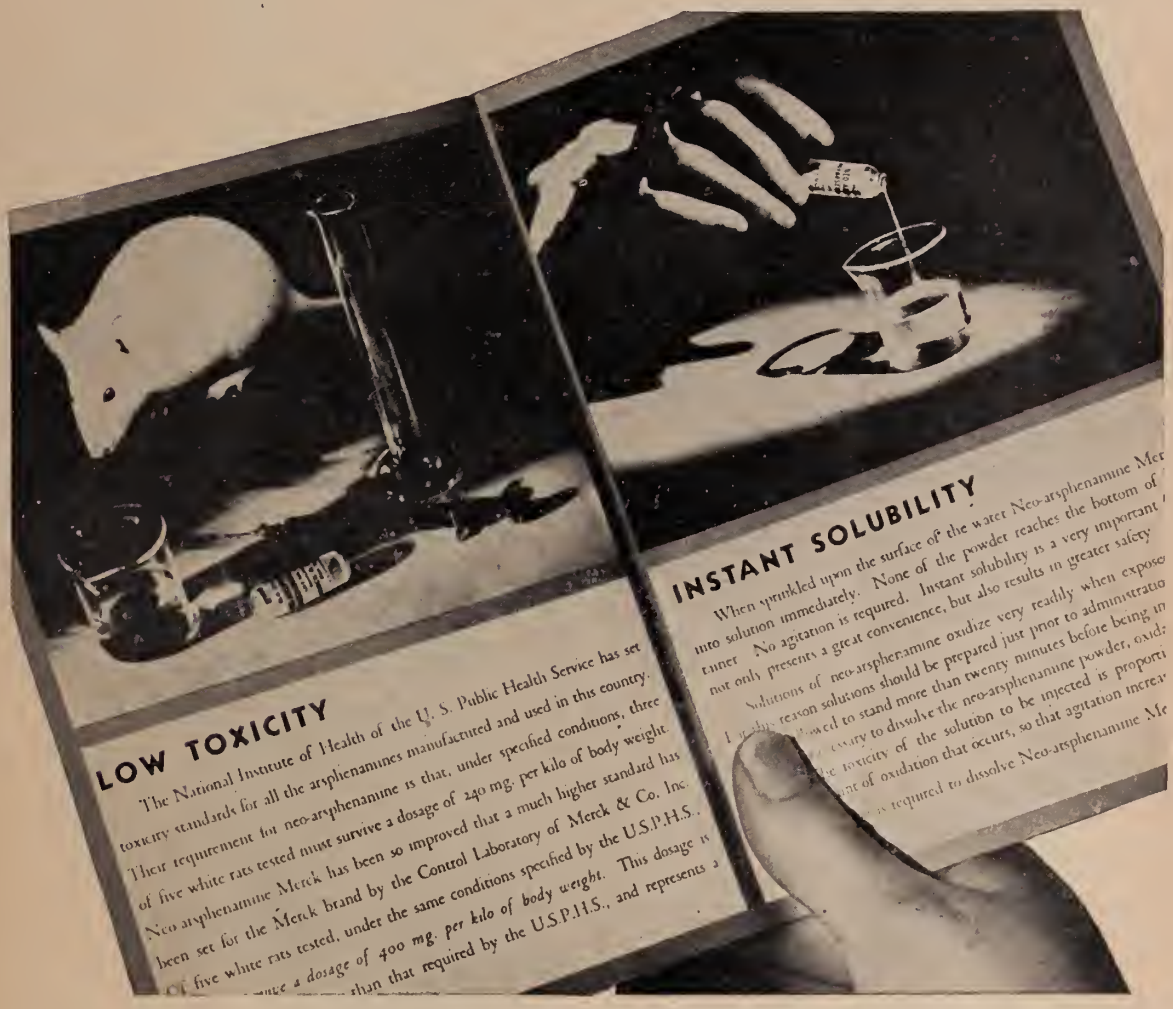
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✱ "Pharmacology of Inflammation: III. Influence of Hygroscopic Agents on Irritation from Cigarette Smoke," as reprinted from Proc. Soc. Exp. Biol. and Med., 1934, **32**, 241-245. ☐

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KENTUCKY MEDICAL JOURNAL

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NEW YEAR GREETINGS

The JOURNAL extends its greetings to its owners and readers, the physicians of Kentucky. These wishes for a Happy New Year are extended in perfect confidence in the mercy and guidance of the Great Physician, who is the Master of our craft. Were we each practicing medicine simply and individually, as our fathers were in the last century, these wishes would be simply of good will from one of us to another, as has been the custom in our profession since the days of Hippocrates. However, we are in the midst of a social revolution that is so complicated that, regardless of the high character of the service we have heretofore rendered, it necessarily involves us in its multiple changes. For this reason, professional organization of the practical type is more important today than it has ever been. In these days when codes have been multiplied to cover every trade, we can take pride in re-calling that we have worked under such a code since the dawn of history of civilization and that our principles of ethics still preserve for us the highest type of service that is given by any group of men to mankind. The responsibility for the preservation of our altruistic spirit of service and our independence is squarely upon the shoulders of the profession. In Kentucky we have the responsibility for the health of our people and for the character of medical service to them. By the efficiency with which we have carried through the responsibilities imposed upon us we have earned a degree of public confidence that has rarely been extended to such an organization. It is our high purpose to preserve this confidence by doing the work which we alone can do more effectively than it has ever been done before.

To this end, we propose this year to intensify our campaign to lower the sick and death rate from diphtheria, tuberculosis, typhoid fever and cancer. To do these things requires an intensive campaign of the education of the public to the value of modern scientific medicine. The educational part of the campaign will be largely conducted by the organized public health officials of the State. To make this education effective will require the cooperation of every county medical society and every reputable physician in Kentucky.

To eradicate diphtheria we must see that every infant is immunized against it by one dose of Alum Percipitated Toxoid when it is six months of age. For the babies in your practice and for the babies of indigents in your neighborhood, you are responsible. You can have the work for the latter done by your health department, if you desire it. The unnecessarily high sick and death rate from diphtheria is a reproach to the profession of Kentucky that must be wiped out.

The campaign against tuberculosis is based ninety per cent upon the early diagnosis and treatment of cases and the prevention of the disease amongst the contacts with open cases. Modern surgical procedure in tuberculosis has opened a wide field for the eradication of the heretofore long-continued course of the disease, and, if properly offered to early cases, will rapidly reduce the mortality rate. The Mantoux test and the X-ray are the especial agencies in early diagnosis. When the laboratory is able to find the tuberculosis bacillus it is an indication that the diagnosis was not made sufficiently early to give the patient the best opportunity for early recovery.

Typhoid fever is a disappearing disease. The splendid work that has been done by our Bureau of Sanitary Engineering, with the financial assistance of the Public Works Administration, in providing safe water supplies for many more of the cities of the State, has had a marked effect. The building of thousands of sanitary privies, with the assistance of the Civil Works Administration, will be similarly beneficial just in proportion as we educate our people to the necessity of the use of these new sanitary facilities. The need for education in the entire State is emphasized by the fact that in Louisville thousands of families are still using outdoor vaults in spite of the fact that it is one of the best sewered cities in America. For the present it is the responsibility of the family physician to inoculate biennially for this disease every patient for whose care he is responsible. This necessity will continue until all of our homes and our resorts are properly sanitated.

The reduction of the increase in the death

rate from cancer is dependent on the early reference to the surgeon of pre-cancerous and beginning cancerous conditions.

Through all of these things there must be emphasized the underlying necessity for the periodic examination of the apparently healthy. It will be the purpose of the health department to educate people so that they will come to their physicians for examinations while apparently healthy and upon the slightest appearance of illness. It is the constant purpose of the State Department of Health to increase, day by day, the number of people who came to their physicians' offices for the early treatment, and prevention of disease.

To accomplish these purposes, the profession must equip itself with the necessary armamenteria for the job. We must do our part. This cannot be done without regular meetings of county societies and attendance upon them and participation in their studies by all of their doctors. To this end, we are expressing the urgent request of the Council of the Kentucky State Medical Association that every member send a check for his county and state dues to their county secretary immediately after reading this message. We are just as urgent in recommending that every member subscribe for and become a fellow of the American Medical Association so they can receive the weekly postgraduate course in its great JOURNAL and can know from its BULLETIN about the campaign of the profession for its preservation. The socialization of medicine and the control of its practice by alien groups can only be prevented by effective action of the physicians of America as an organization *now*.

Hepatic Functions in Hyperemesis Gravidarum.—Schmidt and Herold tested the hepatic functions of twenty-one women with hyperemesis. The outcome of the galactose test indicated a disturbance in the carbohydrate metabolism; namely, a reduced assimilation capacity. The xanthoproteic reaction revealed a disturbance in the intermediate protein metabolism characterized by the presence of aromatic amino acids. The course of the direct, and the quantitative values of the indirect, bilirubin determination disclosed an impairment of the hepatobiliary pigment metabolism. Moreover, it seems probable that the increased porphyrin elemination in the urine was the result of a disordered hepatic function. Although the functional tests of the liver were not all simultaneously positive, they frequently ran parallel with the severity of the clinical aspects or even preceded them. The authors think that these tests are valuable in the estimation of the individual case and aid in deciding the interruption of the pregnancy.

SCIENTIFIC EDITORIAL

COCAINE IN OPHTHALMIC SURGERY

The year 1934 marks an epoch in medical progress. It was just fifty years ago, September 15, 1884, that Dr. Carl Koller, a recent graduate in medicine, after experimental study on animals demonstrated before the Heidelberg Ophthalmological Society the anesthetic properties of cocaine when instilled in solution into the conjunctival fold of the eye. Dr. Koller, a native of Bohemia and a graduate of Vienna in 1882, after several years service as assistant in ophthalmology in Utrecht, Holland came to this country and established himself in New York City in 1888 where he has since practiced ophthalmology with unusual success and where he still has a large following. Early in his career he recognized the many disadvantages of general anesthesia in ocular surgery and the unsatisfactory and painful manipulation of the eye without anesthesia and thus became possessed with the idea of finding a means of anesthetizing the eye by local application of therapeutic agents. His discovery of the anesthetic effect of cocaine upon the eye was not one of chance but was the result of several years of research. After he demonstrated to his satisfaction the anesthetic property of the drug upon lower animals he experimented with his own eyes and those of some of his submissive colleagues before he gave it practical employment in the public clinic.

It would be difficult for the ophthalmologist of today, equipped with cocaine and other local anesthetics, to appreciate fully the worth of Koller's discovery. Prior to the era of local anesthesia even the removal of a foreign body from the cornea was beset with no little difficulty and strain on the part of the physician and much discomfort on the part of the patient. The advent of cocaine has made the removal of a foreign body of the cornea a rather simple procedure, the absence of pain enabling the operator to work with a quiet and co-operative patient and to remove the foreign material without pain and with minimum of epithelial abrasion. This has been a boon to patient as well as to the physician. The increase in the number of cases of intraocular surgery since the work can be done under local anesthesia has been most rapid and the successful outcome of the cases has exceeded all expectations. Through the co-operation of the patient under local anesthesia and through the introduction of asepsis in surgery the operation for the removal of senile cataract has reached a stage almost of perfection with a successful surgical outcome of almost one hundred per cent. It was not long after Koller's epoch making dis-

covery that cocaine was being employed in surgery of the nose and throat and in fact on all mucous membranes and then in order followed the subcutaneous injection of the drug, the infiltration method and lumbar puncture to bring about anesthesia. Dr. Koller has recently been honored by the faculty of the University of Heidelberg in the presentation of a gold medal as a token of his contribution to science and his great service to humanity, fifty years after the first demonstration of cocaine anesthesia in the old German University on the Necar.

ADOLPH O. PFINGST.

ORATION IN MEDICINE

SOME MUTUAL INTERESTS OF PHYSICIANS AND PATIENTS.*

W. J. SHELTON, M. D., Mayfield

In surveying the medical scene one finds there are many problems confronting medicine. They all relate in some way to disease, its cause, prevention, relief and cure. The mutual interest of physicians, together with the mutual interest of physicians and patients, affords the only approach to a solution of these problems. The present professional disturbance with its unrest has arisen because such interests have not been correctly maintained in recent years. Commercialism in medicine, economic conditions, socialized medicine, hospitalization and qualifications of physicians are all questions that concern us vitally. There is a confusion of private and public medical service as has never been before. These questions, with many others can be settled without any great disturbance to either the medical or social organization, if the doctor and the patient understand they have a joint interest at stake, and neither can realize their desires without cooperation. Throughout history in times of economic stress there has been a demand for change. This is true in every line of endeavor and medicine is no exception. Such demands usually pass away as the economic strain lightens.

The profession has corrected its difficulties of the past equitably and satisfactorily to all, and it has yet within its hands the right and power to determine its future. Loyally and devotedly it has led in the progress of civilization, shedding light, developing power and transmitting knowledge.

Through the influence of modern medicine, we have changed our ways of living. The people have learned that their greatest wealth is their health. The life of every individual, where medicine is known, is influenced through its forces and influenced to a greater extent by it than by any other force. Our present way of living in the cities, and rural districts as well, with all of our business and social relations, is made possible through medical care. Civilization throughout the world exists as it is today because of medical knowledge and its application. Remove from any city or community the support of medicine and disintegration of social and business life will immediately follow. If medicine is ever to be of its full benefit the people must give cooperation to its leadership. They should realize that all measures directed towards curing, controlling and preventing disease originate in the medical profession and are put into effect by it.

The public attitude at present in some sections is one of great indifference. This feeling of the public is perhaps due to economic conditions and to some disorganization within the profession itself. Throughout the history of medicine the degree in which the physician held his own calling has been reflected in the public. The level of the peoples' opinion of medicine approaches the average level of the profession's opinion of itself. They think of it very much as the physician himself does. When he thinks of it indifferently his patient becomes indifferent. In whatever light he has seen his calling, as a religion, as an art, or as a science, his patients saw it as he did. This principle was demonstrated forcefully in Kentucky in 1809 by Doctor McDowell and his grateful patient, Mrs. Crawford. His teachings, though bitterly opposed by the public at the beginning, were quickly accepted by it after demonstration. He believed in it with a patriotic fervor. This kind of leadership is loved and followed by both the profession and the public.

Most of our historians seem to forget that medicine is one of the controlling forces in modern life. President Lowell of Harvard, in summarizing the progress of civilization for the last 400 years of history, said that, "On the prow of the conquering ship in these 400 years—first stood the priest, then the lawyer, then the merchant and finally the physician." This is a great tribute, from a great man, to a great profession. Few people know the conditions of life 400 years ago before medicine exerted its great influence for its betterment of the world. They have at different periods been slow to accept its leadership, but in the course of time when they have learned the facts they follow on. When physicians have complete confidence

*Read before the Kentucky State Medical Association, at Harlan, October 1-4, 1934

in their work and are devoted to it, there is a bond of sympathy established between the patient and doctor which makes for better medicine and better patients.

There is some conflict between medicine and the laity, but a greater conflict within our own ranks as to how the best and most satisfactory service can be rendered. All traditions in medicine have been established by the profession, and all changes have been made by it. Its customs and practices throughout its history have been sufficiently flexible to meet the demands and needs of the people. It has always recognized the rights of the state and public health organizations to promote the welfare of the people and cooperated with them in their efforts. All modern health work and organizations are products of medicine created to prevent and cure disease and educate the public. To this end the profession earnestly cooperates with the state.

In Kentucky the State Board of Health is recognized throughout the state as a most useful and essential part of medicine. In every community its influence for good is recognized by the profession and public. As the years pass by we increasingly appreciate all its constructive public health measures, and when our history of the present period is completed there will be no more brilliant page than that which recounts its accomplishments. We may well recall here Dr. Osler's comment, "For countless generations the prophets and kings of humanity have desired to see the things that men have seen, and to hear the things that men have heard in the course of the wonderful 19th century."

Some physicians, and a large per cent of the laymen, have come to look upon all medical service as they do upon education and public protection. They look upon the guarantee of health as they do the guarantee of property rights.

There was a time when America had no public school system. Education was limited to those who could pay for it. This system of education failed when they reached the point where the illiterate became a dangerous element to the welfare of others and to good government. Then it became a matter of public trust, to be paid for with public funds, and each state of the nation assumed this responsibility.

We know that health is as essential for public welfare as education. These two forces have gone side by side in the progress of science and government. Whether or not all medicine should follow in the wake of education and be cared for by public funds remains to be seen. The great jurist, Blackstone, taught, "The right to the enjoyment of health is a subdivision of the right of personal liberty, one of the absolute rights of persons." The physician is the only one that can direct the person to the enjoyment of health, that is his business. He is the only authority, the only one qualified to direct all matters pertaining to heallth, public or private. Just how his services shall be paid for, whether it shall be paid out of public funds or not, is a question that concerns all of us. There are many widely different views among doctors and laymen concerning this phase of medicine.

There isn't any doubt that we are breaking away from many of the customs and regulations that have always governed medicine, just how far in this direction we shall go no one has been bold enough to say. That this attitude exists extensively and interferes with the interest and opinions of many physicians is not disputed, but the correctness of it is disputed by doctors and laymen.

Against this recent professional and public demand for socialized medical service, which they say is cheap, effective and available, is the great bulk of physicians and people. The physician has always kept in advance of public demand. His rapid progress and teachings have created the demand. Public opinion of medicine and surgery has been shaped and controlled by the doctor until recent years. Medical service both private and public, has advanced rapidly. The public demand has increased at the same rate we have advanced. Medical discoveries have always been disclosed to the public without capitalization. The doctors' accomplishments are his greatest pride. He has always given his service to the poor without complaint. But, it has always been left solely to his judgment the way to give the fullest measure of the best service to all the people.

There have been marked changes in the last ten years, in the practice of medicine in addition to its discoveries and equipment. One is organized medical service under private control. The extensive development of group medicine, under the direction of medical men themselves, is often successful, their success depending upon the ability and personality of those composing the group. Some of the smaller groups have gone beyond their ability in their desperation to succeed and operations are done which should not be done. Patients who patronize these institutions often pay large fees for needless treatment. The hospital is never stronger than its personnel. The management of these hospitals is quite different to larger institutions.

The state has increased its service to the

public within the last year by giving medical care to the unemployed. There is an increasing tendency on the part of the people to secure cheaper medical services, due, I think, to the economic changes, and not to the lack of medical service, or the character of service which they have received. There is no conflict between the doctor and the patient as to the character of service. The whole affair is a strained economic condition that reflects itself in all directions and is no more pronounced in medicine and surgery than in any other calling, law, education or mechanics, even the ministry; all have been caught in the same entanglement. In the medical profession the family practitioner has felt the sting more keenly than any class. His position has been damaged by the specialist and private organized medical groups, but no one has been able to take his place and he still remains the key to the situation. There have been changes taking place throughout the history of medicine, a process of evolution, just as we see in other lines of endeavor, but only to the extent encouraged by the profession. Medicine and surgery have never been bound fast by tradition.

In times such as these every public spirited person willingly bears his share of the burden, but no group of people, in the possession of their senses, will permit destructive changes and willingly bear the consequences. That a complete reorganization of medical practice is inevitable, as advocated by some, is not concurred in by the majority of doctors, although the entire structure seems to have been severely shaken by changes that have been made.

It is still agreed that the ideal medical service is individual service by a competent and interested physician. We all prefer it just as we prefer a special nurse and a private room. We can't deal with people collectively like we can a single individual. I don't think that physicians are greatly concerned about the nation entering into medical practice. But I do think the time has passed when the doctor will assume the entire responsibility for the medical care of all indigents and unemployed. In the last year this responsibility was shared, to a limited extent, by the various states. This was not entirely satisfactory to physicians but was better than no help.

It has been estimated that 5,000,000 families, or about 18 per cent of the population, received from public funds their medical care along with all other necessities. It is likely that these people received better treatment than ever before and will continue to demand it. This work affected every Doctor in the country and what will be the final disposition of it no one knows. But the doctor is the only one that does know the kind of service to render, how and when it should be rendered, and for what he can afford to do the work. His side and the patient's side are both to be considered, while the load of poorly paid and unpaid work is constantly increasing.

One change has been suggested in recent years that I am sure meets the approval of most of the physicians of this state is county hospitals, and more city hospitals with better diagnostic laboratories, managed by local boards, and open to every one at a cost they can afford. The clinics and private hospitals, in the smaller communities, do not answer for such institutions. If every moderate size town could have a city hospital, and every county a county hospital equipped with the necessary accessories, better and quicker medical service could be obtained for all. The patient would have more to pay the physician and each patient could have his family physician. This would not disturb the relationship between patient and doctor and would greatly increase the quality of service to the patient and his ability to pay for it.

I know the profession gladly co-operates with the states to its fullest extent in caring for all unemployed; also in the management and control of all communicable diseases, including tuberculosis. This far makes for better medicine and better practice of medicine, and does not encroach on private physicians.

New tasks will be added in the future, as in the past, in accordance with the needs of both the doctor and the people. We can't live in an age of medicine that is gone any more than we can live in a commercial age that is gone. Growth and progress in every calling produce a constant change, but medicine does not need complete reorganization any more than our educational, judicial and legislative systems. I don't think that medicine has outgrown its old framework. The cracks and breaks in it will be cemented and its successful march against disease will continue. Extremists do not contribute to progress, whether radical or reactionary. It takes the sincere effort of all.

I don't think the time will ever come when socialized medical care will be given to a majority of the people. I don't think either the people or the doctors want it. Mankind was created to co-operate in the betterment of his conditions, but sometimes in his freedom of action he fails to do so. The doctor and people should be, and usual-

ly are, interested in the development and progress of medicine. The practical should not be wholly neglected for the scientific, nor should the scientific be neglected for the practical. A close relation between medicine and the public should always exist, but it cannot be maintained through organization alone, whether state or national, like it can through the individual doctor. Medicine, as a whole, can be trusted to do what is best for the people, when they themselves cannot be trusted, because they do not know.

The objective of public health officials and private physicians is to extend the average of life and increase its efficiency by preventing and curing sickness. Their aim is identical but accomplished in different ways. Every community in Kentucky gives its people an opportunity to life in a fuller measure of health and usefulness. The present expectancy of life is 59 years. It has been determined by further application of medical knowledge it can be increased from 6 to 10 years. The 16,000 yearly deaths of women in child-birth throughout the country could largely be prevented, as well as the further reduction of mortality in the 75,000 annual deaths of tuberculosis. Only a small per cent of the 720,000 cases of syphilis recognized each year in the country gets treatment in the early stages. Statistics will show that venereal diseases are increasing, and constitutes perhaps the leading cause of sickness; they also increase the economic burden of the states by increasing enormously the unfit and unable, for which the various states must care. This is positive evidence that our present knowledge is not being fully utilized. In a concerted effort to protect the people most of the epidemic diseases which sweep over the world have been conquered or greatly modified. These accomplishments are so well known it is not necessary to further recite them.

No other profession has contributed such rich gifts of knowledge to the betterment of man. Pasteur said, "It is within the power of man to rid himself of every parasitic disease." We are rapidly moving in that direction, yet medical knowledge is not fully appropriated.

In the future preventive medicine will be directed against such conditions as arteriosclerosis, heart disease, cancer and nephritis. This task will continue to require the concerted efforts of the health department and the individual physician. More attention should be paid to the urgent need and use of prophylactic treatment in every doctor's office, to the non-contagious, as well as contagious, and to the chronic as well as to the acute diseases. The prevention of degenerative changes and diseases of functional disability and diseases producing wear and tear of body and mind is essential. The private physician is the only one who can render this service, since he is the only one who can make periodic examination and know the condition of his patient.

Every disease will not yield to better sanitation, better food and clothing, better working hours and better economic conditions. Such diseases will always demand the care of a private doctor. He has accomplished a great deal by preventive medicine in obstetrics and pediatrics, which could not have been accomplished otherwise. Why should he not go beyond these specialties? Can't physicians retard, or prevent, degenerative or functional diseases easier than they can cure them? Preventive medicine in all its forms is an absolute necessity.

Public opinion of medicine has changed in the last few years. We have deluded ourselves by trying to maintain medical traditions and customs while social organizations and quackery have been shaping the opinions of the people. It is the privilege and duty of every legitimate profession and calling to ethically impart its teaching to the public and shape public opinion in a way that will benefit both. This right has always been recognized, even the school and church exercise it vigorously. When any group fails to meet opposition it can't expect to win. No calling can successfully run counter to public opinion. It is the duty of medicine to change the current into its former channel, or conform to its requirements. The doctor can't sit and wait for the world to beat a path to his door just because he is competent. He must do something to further his interest and bring himself into a more favorable light.

Public health organizations have been busy in furthering their claims. Great charity organizations have been built and are devoted to the interest of medicine. The result of all these forces is the people have been greatly influenced in their conception of the doctor's duty and their opinion of the practice of medicine. Many have decided that the benefits of medicine should be bestowed upon them as an unearned blessing. Other systems of the practice of medicine have been suggested. Many of these suggestions came from outside the profession. The physician gains nothing by denying this condition or evading it. He should face it and oppose it.

It is difficult to fully and correctly present the problems of the private Doctor. I know that he is discriminated against and I

know that he does not defend his rights, nor the best interest of medicine and his patient. There is always an intensive campaign going on for the charlatan which is detrimental to medicine, and a campaign for medical groups, a campaign for health organizations, but there is nothing being done to further the interest of the private physician, who is the very soul of medicine.

Years ago when the customs and manners of life were different the doctor and his patient recognized more clearly their mutual interest and co-operated to that effect. In recent years the private physician has lost his bearings, he doesn't know how and doesn't try to regain his standing of former times. The patient no longer recognizes, as he should, the difference in legitimate medicine and quackery. Anyone can see that there is a rising tide of public distrust. This distrust was created partly by the commercialization entanglements into which the medical profession finds itself drifting and by a small per cent of the profession. Dr. Parren, statistician of the Metropolitan Life Insurance Company, states that, "More laymen make their living directly or indirectly on the practice of medicine than do physicians." It is beginning to look like the lay group is trying to control the medical group. It seems to me that these are questions that should be discussed in every medical society and by every doctor.

The notion prevails that a new world somehow appeared which demands the discarding of old systems, methods and principles, and the developing of new machinery, new principles and ideas to meet the changed condition. It is the same world filled with the same people, with the same human nature, having the same needs, same desires and limitations. It is true that the entire social structure has been greatly upset, but the old rules and principles that have been tried and proved sound still hold good. Careful experimentation with new methods of medical practice that have been carried on conforming to medical ethics and regulations is in the right direction.

The laws of health and the peoples' need for health have not changed, but the demands of the people and public opinion have changed and medicine must meet these changes. William Foster said, "The problem is to bring doctors and dollars and diseases into such helpful and continuous contact with each other that the practice of medicine can keep pace with the science of medicine." The common sense view of it all is that medicine is a necessity, the affairs of every day life can no more be carried on without it than they can without food, clothing and implements of work. The medical needs of every individual should and must be supplied, and when supplied, paid for, just as any other necessity. This service requires fairness, equality and the application of the same sound principles upon which all professions have been successfully built. Justice and right do not change, they need only to be enforced, especially is this true for the years lying immediately before us. We should hold fast to that which is good in established methods, that it may serve as a chart to the undiscovered good of the future. We are interested in preserving the ideals and standards of the past to the extent they will serve the best interest of all. Medicine may become a changed profession, but from our discipline we should get greater value, greater power and a deeper sense of our responsibilities to our fellows and patients.

ORATION IN SURGERY

THE FRACTURE PROBLEM PRESENT AND FUTURE STATUS*

I. A. Arnold, M. D.

Louisville

I have selected this subject because it is today, of paramount importance to the medical profession. I want to say in the beginning, that I have embodied in this paper many facts obtained from the National Committee on "Fractures", published in the Journal of Surgery, Gynecology and Obstetrics, Feb. 15, 1934. When we think of the number of fractures that occur in this country annually, 1,500,000, it surely behooves us as guardians of the health of the people, to think seriously and constructively as to what can be done to ameliorate the present condition, both as to number of accidents, and results obtained when they do occur. According to Hitzrot, in a review of ninety-six fractures of the femur in New York City, between the ages of 15 and 40 only four had complete functional recovery and the remainder were given a rating from 60 per cent to 100 per cent disability. According to the above statement, it occurs to me that we are not keeping pace in the treatment of fractures with that of preventive medicines and other branches of the profession. Again, it is rather absurd that we, as doctors, should spend so much time and money in raising an infant to develop into a strong and sturdy adult, and then to have this same child killed or mained for the

*Read before the Kentucky State Medical Association, at Harlan, October 1-4, 1934

remainder of its life. This is analogous to a certain criminal in a neighboring state, who had attempted to commit suicide on the eve of his execution and the doctors gave him several blood transfusions and stimulants to save his life so that he might pay to the state the penalty for his crime. I am not depreciating the efforts of preventive medicine, which is just and proper, but I do deplore the fact that we do not practice preventing accidents with the same zeal. In military terms, "If perfect liasion is not kept between two armies, the enemy slips between and there is an ultimate destruction of one and a disorderly retreat of the other." In the army of preventive medicine, let us keep pace with each branch, as in this way only, can victory be won.

The proper training of the medical profession must be based on the past and present if future improvement is to be obtained. I want to make a confession right here; leaving out the advantages of the X-ray, the present training of the undergraduate has improved very little if any, over that given twenty years ago. At that time I believe the student was taught more of the normal anatomical structure and pathological condition than he is taught today. Too much stress is laid upon X-ray examinations at the expense of the clinical findings. I cannot overstress the importance of X-ray examinations, neither can I underestimate the pathological and clinical findings as they are both important to the best treatment of fractures. We were formerly taught, as undergraduates, that symptoms such as abnormal mobility, crepitation, etc., were the diagnostic symptoms. Alignment was one of the principal things to be obtained in reduction and the shortening of long bones was necessary, otherwise you probably did not have a fracture. With the advent of X-ray these fallacies were exposed and the medical profession was launched on the road to more scientific diagnosis and treatment.

In order that one may treat any condition of the human body accurately, he must understand the normal anatomical structures in relation to one another, and the physiological function of the part to be treated. After this fundamental basis is established the pathology of the fracture must be thoroughly understood. The former can be taught in didactic lectures and in dissecting rooms but the latter must go further than this. The undergraduate must be taught any pathological deviation and he must receive personal instruction how to observe the patient, and this observation must be continued from diagnosis and treatment to restored function. Otherwise, if you simply make a diagnosis of the fracture, very little benefit has been obtained as far as the welfare of the patient and the training of the doctor are concerned. Proper reduction and fixation is not enough, and treatment of the fracture does not end when union has occurred. Treatment must continue until normal function is restored as nearly as possible. If the repetition of this instruction and observation is continued over a period of sufficient length of time for the student to see the end results, and if he is a keen observer and mechanically inclined, he has gained sufficient knowledge as a base from which to start and which will increase, as the years of experience multiply. It is important that the student should be taught the difference in the process of osseous regeneration, both as to the immature and mature bone. These same principles should be stressed by competent men upon the young graduate during his interneship. Much can be accomplished during this transitional period, from student to doctor, for the fact they are fewer in number and by personal instruction the interne who assists can assume a certain amount of responsibility in the individual case. He will then assume an attitude of interrogation, why certain things are, or should be done. Even after this thorough training and instruction in the treatment of fractures, he leaves his interneship to enter the field of practice and assumes responsibility about which he had little idea up to this time. In the bewilderment of this oscillating stage, he begins to try this and that method of diagnosis and treatment which he had been taught and finally, through experience and responsibility, he adopts a more or less routine treatment which is in keeping with his facilities and economic surroundings which enables him to get fair results. He now takes a retrospective view of all he has been taught, and of his personal experience and it is now and only now, that he begins to feel his inability to handle these cases as he would like to do. He is in a receptive mood and wants to investigate and see if he cannot improve upon his present status. For doctors in this stage of their practice I would like to recommend that post graduate clinics be established in accessible centers which, if supervised by competent men of the profession, would enable them to get post graduate work and with a limited number in the class they can become more proficient in the treatment of fractures not with the idea of being able to do the more intricate bone surgery but to handle the ordinary fractures, which confront them in the line of general practice.

The duty of the hospital is to cooperate with the doctors and to comply with the demands of its staff, as far as possible, in accordance with its economic status. This applies both to the material requirements and to the proper training and obedience of its nurses and other personnel. I want to say right here that a majority of the hospitals are complying with these requirements to the best of their ability, under the present economic conditions. In other words, the hospital is rarely to be blamed for the things that should or should not be. It reflects on the ability and integrity of the staff. The hospital is what the staff makes it. The ideal hospital for the treatment of fractures is the one whose personnel meets the injured patient at the office entrance with a smile and shows some evidence of sympathy, rather than a cold blooded business-like manner. This attitude makes the patient feel at ease and that everything will be done for him that is possible to be done to relieve his suffering, and that proper treatment will be given him; this may not seem important to those who are receiving a number of patients each day, but it is all important to those who are being admitted and suffering with pain. This puts the patient in a mood of cooperation instead of resentment toward everything that is being done. Upon reaching his room, the same courteous treatment and sympathetic attitude must be carried out by the internes and nurses. When the patient receives this kind of treatment, he is in a frame of mind to cooperate and stand a great deal more suffering than he would if he had been received in a cold business-like manner. This is essential if the best results are to be obtained. The diversity of fractures necessarily makes a diversity of treatment. The hospital should have the equipment to meet all of these conditions such as special beds, pulleys, traction, splints, plaster paris and portable X-rays. Also physio-mechano therapy equipment and a personnel especially trained in their use. If the hospital has sufficient fractures to be treated, they should have their own ambulance and the ambulance drivers should be especially trained in this line of work. I am not an advocate of routine standardization in the treatment of any condition, especially fractures; however, I do say we must have or should have some kind of routine standard for the semi-professional personnel, and that to be changed only in individual cases by the doctor.

Another factor, which materially enters into this process for treatment is industrial corporations and liability insurance companies. Some of these corporations of the large establishments are taking care of the injured admirably as a whole, but even these best equipped plants fall far short of the ideal in the treatment of fractures. Some employ the doctor on a salary basis, while others are paid according to the case; the former seem to have more latitude in the handling of these cases, that is the plants are of sufficient magnitude as will permit a reasonable salary for the doctors. These plants or factories maintain first aid stations and nurses and other personnel adequately trained to handle these fractures until medical aid is procured. They are also equipped with different appliances such as the Thomas splint for transportation to the hospital, and as a rule the majority of the medical personnel is capable. The cases handled by the insurance companies involve a multiplicity of smaller manufacturers. The public insurance covers that of traffic and contractors work. These fractures are the worst types and the end results are the poorest. They do not have the safety appliances that the larger manufacturers have, neither have they the trained non-professional personnel to handle the injured nor is there any definite doctor appointed to attend these cases. They are treated usually, by the first doctor who comes along or by the first one in the community, who can be reached or still more deplorable, they are handled by some person who happened along when the accident occurred. Without regard to the type of injury, they are hurried off in a police ambulance or in a private automobile to the hospital. Probably, during this process of removal, there has been more damage done than was caused by the original injury. One-third of these unfortunate conditions can not be corrected at the present; two-thirds can be corrected by holding the insurance company or those responsible for the accident and the doctor in charge, to a strict accountability. Many of the doctors employed by these companies are not sufficiently trained in this type of work, and are paid but a pittance for the work they do; sadly enough, they are unable to further qualify themselves for what they would like to do, as the salary is so small they can not afford to lose a day for any post graduate work. The insurance companies, I regret to say, look too lightly upon the humane phase of this and think only in terms of dollars and cents, while nine-tenths of them even in this way of reasoning, use poor judgment in trying to prevent an outlay of a reasonable amount of money for a competent physician to handle these fractures. They will take some one who is not prepared and who is

forced through dire necessity to make a living, and who will accept this work at a price far below just compensation. He is also limited by certain restrictions, which his employer lays down as a rule to be governed by, therefore the end results can be nothing more than poor. The companies can not see that it would be much more remunerative if they would employ good doctors and permit them more latitude in their judgment in individual cases, than it is to pay for prolonged partial and permanent total disability. The non-professional employees who handle injuries, such as ambulance drivers orderlies and people who are supposed to handle these injuries for large manufacturing establishments should be thoroughly trained by the physician, and the physician should demonstrate to them the appliances of immobilization and traction, and how to minimize as far as possible, any further injury in the process of transportation from the site of injury to the hospital. Also the police and firemen, who are frequently called upon to give first aid and to move the injured ones to the proper place for treatment, should have instructions in the art of handling these cases the same as the non-professional personnel in a manufacturing establishment. The police patrol should have access to special appliances such as splints or other methods of immobilization that they might apply before attempted transportation.

The public must be taught that fractures are serious injuries, and that it takes time and competent doctors, and involves no little expense if the best results possible are to be obtained. This knowledge can best be disseminated through the radio, Red Cross, scouts and by general instruction, through the community centers. Any doctor who is well trained in the art of treating fractures cannot but stress the importance of the proper handling of a fracture at the time it is received, as the proper treatment begins with first aid and this ofttimes determines the end results. As an illustration, as to what can be accomplished by the co-operation of industries with the doctor, Dr. John R. Wilson of Omaha, Neb., chief surgeon of the Union Pacific Railroad, in his report on standardization of treatment of many of the railroads of this country, referring specifically to the road of which he is chief surgeon, the Union Pacific, states that every hospital that has any thing to do with the treatment of the employees of this road is recognized and standardized by the American College of Surgeons as a Class A hospital. All the surgeons employed by this road are well trained not only as general surgeons, but as emergency surgeons. All the emergency stations have been supplied with proper transportation splints, oxygen tents, etc. This has been accomplished by having competent surgeons and the co-operation of the officials of the railroad who are now convinced that they save money by paying for good medical service in the treatment of their employees as reduction of time and of both partial and total disability is greatly minimized. Aside from the humanity part, not only the companies but the community and civic organizations are relieved of the care of a great many of the derelicts, who have been restored to gainful occupation while under the old method of incompetent service and lack of co-operation on the part of industry, they become objects of charity.

What I would like to see, and it should be done, are the defects that have been mentioned in this paper corrected as far as possible, and it is possible. First, the medical schools should allot more time in their curriculums to this phase of medicine and should employ clinical instructors, who have had wide experience in the treatment of fractures and in bone surgery as they are more capable of emphasizing certain points in the treatment than an architect on this subject, who really never treated a case. Each hospital should have on its staff, men ably qualified in the treatment of fractures, to instruct the internes and consult with the officials of the institution and see that the facilities for this work are available and that the nurses receive special instruction in handling these cases. I would also like to see in the more populous centers either a particular hospital devoted entirely to this work or certain parts of the larger institutions set aside a certain section to be devoted to the treatment of fractures and to be generally known as such. When it is possible, the hospital should have its own ambulance. The ambulance drivers should be trained how to immobilize a fracture and transport the patient to the hospital with the least amount of trauma. There should be first aid stations along all of the main highways designated as such and should be equipped with necessary first aid materials. This would be a wonderful as well as a benevolent work for the Red Cross to establish these first aid stations. The majority of railroads and manufacturing establishments have already inculcated the above suggestions. A great many of these things are in the process of development at the present, and the fact I wish to emphasize more than anything else, is that we have better trained doctors in the treatment of fractures, not in the more complicated cases, but in ordinary fractures as

seen in general practice, and that the ones who are pioneering in this field must continue to improve the present status and thus teach the public that these injuries are serious; that if they are not properly treated, they become liabilities and objects of charity either on their relations, civic organizations or upon the state. The liability insurance companies, who of their own free will solicit and carry the insurance for the company, should be made to understand through the doctor, public opinion, and by act of the legislature, that they have incurred an obligation and must be made to assume a reasonable fee for such work.

ORIGINAL ARTICLES

ANGINA PECTORIS*

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Introduction

Having been selected to read a paper before the Henderson County Medical Society, I thought it might be of value to review the literature on "Angina Pectoris."

This syndrome complex is only too often overlooked and other symptoms are frequently interpreted as being "Angina Pectoris."

I claim no originality whatsoever for this paper. I have tried to review the literature at my disposal and to eliminate the theories and pet hobbies of certain authors, and merely bring out the facts that we can truthfully say exist.

The symptomatology in this syndrome complex has been obtained from various sources, and we have brought together the description of the signs and symptoms occurring in this syndrome as recorded by several authors and investigators.

This disease far antidates the physician that reported it in 1768, Doctor Rougnon of Besancon, who wrote a letter concerning a cavalry captain who had died suddenly during an attack of pain situated in the retrosternal region. This attack was brought on by exertion. The letter was addressed to Lorry. The captain had had previous attacks off and on which had been brought on by physical exertion, and during rests, he had been free from any of the symptoms that we will describe. Heberden reported a similar case at the same time, and he named it "Angina Pectoris" from the Greek "dyku" (I strangle) on account of the sensation of strangling and anxiety which accompanies it.

Now, another name for the same disease is "Stenocardia" Wall, Fothergill, Parry, Kreysig, Desportes and others reported similar cases after the medical profession's attention had been called to Heberden's description of this disease. One or two other names had been offered such as "Spasmodic Asthma" by Heath. Baunes offered the name of "Sternalgia," but when the actual seat of the syndrome was located, Heberden's definition of "Angina Pectoris" was universally adopted.

These various reports were made and instead of aiding in differentiating this disease, merely obscured the etiology and misinterpreted the symptoms, and, to add to the confusion, pulmonary symptoms were dragged into the picture. I do not wish to convey the impression that at the present time, we have reduced the etiology of this disease to the least common demoninator, but we find some very accurate records of autopsies performed during this period on cases that suffered from angina pectoris which coincides with our findings today. Fatty degenerations of the heart was given as the cause, lesions or neoplasm of the mediastium, ossification of the coronary arteries. Potain and Huchard, in the latter part of the last century, stated that it it was due to stenosis of the coronary arteries, this being the sole etiological factor and named it "Stenocardia."

We have three types of Angina Pectoris. Angina Pectoris due to effort. Angina Decubitus and Angina Sine Dolore. We have been referring to the first type, i. e. Angina Pectoris that follows exertion.

Angina Decubitus can be generally recognized as another type of Angina Pectoris, or another stage in this syndrome complex. It was about forty years ago that Fraentzel and Lauder Brunton called attention to acute dilatation of the heart which often occurred at night and manifested the same symptoms as that of Angina Pectoris. They concluded that the only difference was the absence of exertion. Merklen states that this type is due to acute dilatation of the left ventrical or, in other words, heart strain. His conclusion is based on accurate study of this type of Angina Pectoris.

Since the first observation made by Doctors Rougnon and Heberden in 1768, much work and study has been done on this disease. Some fantastic and elusive theories and some authors with as fantastic and elusive symptoms have written on this subject, but, if we take the clear accurate symptomatology as observed and recorded by these two illustrious physicians in 1768 and the work done forty years ago by Fraentzel and Lauder Brunton, we find that only two types

*Read before the Henderson County Medical Society.

of Angina Pectoris really exist: Angina Pectoris following exertion and Angina Decubitus. They are so named so that we may distinguish the different circumstances under which they appear. These syndromes may vary from a severe attack following exertion to a mild intermittent attack, or merely a sensation of oppression or numbness without any pain at all, and we may get all the grades that exist between the classical syndromes of a well developed, unmistakable manifestation of this disease, producing death in a few minutes with pallor, profuse perspiration, the unfortunate individual standing absolutely stock still with an agonized expression on his face with a sense of impending death, but does not dare to breathe on account of the pain.

Out of a clear sky, the patient suddenly feels behind the sternum at the left of the upper intercostal spaces a pain, which startles and alarms him at first. This pain may be only a slight discomfort and attributes it to over-eating or indigestion and he thinks that it will disappear if he exercises. He quickly realizes that the pain is becoming more intense and extends across the upper part of the chest or between the shoulders, as a rule toward the left. Frequently it goes down the arm, the pain seems to constantly cling to the inner surface of the arm going down to the little and ring fingers. Let us bring out that in a true attack of Angina Pectoris, the pain startles and alarms the patient and the patient is sure that if the agony continues he will die. He stops, and at times the pain will subside instantly but, as a rule, it gradually disappears. If he tries to walk, the pain returns, so he makes another effort and he cautiously begins to walk. The patient is in constant dread of the return of the pain if he is fortunate enough to have gotten relief from a seizure. This attack may end; he may have a comfortable night and he may not have the slightest evidence of having suffered an attack, but, there has been an impression made that he will not forget and that is, of a painful and inexplicable experience. He may go for days or weeks or months without another attack but he will discover that this dreadful pain will return when he exerts himself to the point of crossing over the threshold impulse. The second attack convinces the patient that he cannot master the pain.

This type of Angina Pectoris produced by exertion occurs, as a rule, in men of 45 or over, rarely in women. Walking rapidly; walking against the wind; running to catch a street car; walking up a slight grade or walking after a hearty meal, is usually sufficient to bring on an attack. Another condition that seems to have an important bearing on these attacks in some individuals, is chilling of the body. I have had two cases which could walk at a fairly good gait provided they were warmly clad, but if they became at all chilled, the attack would manifest itself.

The major symptoms of Angina Pectoris is a pain in the upper part of the sternum which may remain localized, usually it extends transversely to the left in the region of the second or third intercostal space or it may extend backward to a point between the scapula. Some patients say they feel like they are in a vise, others that there seems to be a hand that is squeezing their chest and sometimes like they have "Just a pain" in the upper portion of the chest but they all agree on the violence of the pain or sensation. The area of the pain may be away from the chest. Lord Clarendon's father had his attacks in the inner aspect of the arm or the wrist. In rare instances, we find it in the neck. Doctor Osler described one case in which the pain was in one testicle. After an attack there may be a tenderness above and outside the left nipple and in the left arm. The pain is explained by James MacKenzie as a sensory reflex due to the irritation of the first, second and third dorsal and eighth cervical nerves, and the sense of constriction to reflex stimulation of the intercostal nerves.

Paroxysms occur in which pain is light or absent (Angina Sine Dolore) Early attacks are often of this sort. Later on there may still be no pain, or the paroxysms may sometimes be painful and at other times not. Angina Sine Dolore is described by the patient as a sensation of oppression in the chest, of something that grips and produces numbness. The patient complains of the fear to take a deep breath or even a shallow one. There is a sense of impending dissolution; there is no real dyspnea; is pale or livid and breaks out in profuse perspiration; there may be little or no disturbance of the pulse; it may at times become irregular; the blood pressure may drop; sometimes the pulse may become accelerated and sometimes it may be slow, the duration of the attacks is variable, any patient may have an attack that will last a few minutes or for hours. Let us reiterate that Angina Decubitus only differs from the other in the manner by which it is produced. The Angina Decubitus differs from the Angina of effort in that the painful seizures occur spontaneously, the influence of exertion playing no part in its production

That it is difficult in some instances to differentiate the pain of angina pectoris from other conditions, we do not hesitate to admit,

and at times it is impossible seeing a patient in an attack to be absolutely certain of the diagnosis, but undoubtedly, there is a certain typical characteristic of the pain manifested in angina pectoris that aids a great deal in making a diagnosis and, that is, the pain in these cases is one that transmits to the patient a sense of choking or strangling, of constriction of the chest, or a pressing sensation, substernal, it is not a stabbing or a sharp cutting pain. Another characteristic symptom is the mental effect that this pain or that these symptoms have on the patient and, that is, of impending death. This lack of taking into consideration the character of these symptoms, is what causes, so frequently, the medical profession to overlook Angina Pectoris Sine Dolore (without pain) which we have previously mentioned. In these cases, the patient does not have the sensation of pain, but, he does have a most decided sensation of oppression in the chest, and of something that grips him in the substernal region and he does not dare to breathe although he will tell you he has no pain but "I have an awful feeling in my chest."

I have a patient, 58 years old, a shoemaker, who weighed 280 pounds when he came to me in February with mitral insufficiency, hypertrophy of the liver; diabetes; marked jaundice; blood pressure 200-120; pulse 80 with a slight irregularity. After relieving the hepatic congestion he gradually reduced his weight over a period of three years, then he told me that he had a sensation of pressure in his chest like somebody was pushing down on him which occured at night and would awaken him and I immediately began to suspect that we were handling here Angina Pectoris Sine Dolore. On nitrites these symptoms diminished and practically disappeared, but gradually reappeared in the spring when he would try to do any gardening and the seizure became more and more severe, the pain located under the sternum. I told him to stop all exercise that would bring on these attacks and never to get in a hurry. In March, 1931, he complained of a pain in the inner surface of his left arm, but since then he has been having paroxysnal attacks off and on not following exertion; they appear in the axillary space and then jump to the inner surface of the left arm. During these paroxysms his pupils dilate; he becomes ghastly pale; his blood pressure which generally is around 170, dropped to 140 in one instance; pulse to 70; a cold sweat breaks out; he does not dare to move; and he is thoroughly exhausted after the attack. These attacks will last from two to three minutes and he has had as many as three or four in one day. Rest, nitro-glycerine, thus far have relieved the paroxysms.

Here we have a case that started out as Angina Pectoris Sine Dolore occurring at any time without any connection whatsoever to exertion: Angina Pectoris following exertion followed these syndromes and now has become a full fledged Angina Decubitus and here we have the three types in one individual.

Doctor Henri Vacquez describes a classical attack of Angina Pectoris as follows:

"It is, in fact, at night that the angina paroxysm bursts forth for the first time, unannounced except perhaps by a few special symptoms that we shall describe presently. In the first hours of sleep, the patient is awakened by a pain in the chest which attains its maximum almost immediately and which, by its situation, its nature and the symptoms that accompany it, exhibits all the features of Angina Pectoris. It begins either in the region of the heart itself or rather behind the sternum, soon radiates into the arms and especially the shoulders, but not exclusively on the left side, to the interscapular space and even to the jaws. It also speedily provokes the sense of impending death so peculiar to attacks of Angina.

The intensity of the pain varies, but often it is frightful, so excruciating is the sense of grinding and crushing of the chest and the sharpness of its radiation to distant points. The patient, sitting motionless in bed, is pale and anxious; drops of sweat appear on his face; his pulse is small and rapid and he remains thus for hours awaiting the death which he feels to be impending if the symptoms should not get better speedily. In fact, the fatal termination may take place by syncease during a recrudescence of the pain or from pulmonary complications. In this event, an incessant spasmodic cough follows the pain. It provokes the expectoration of frothy mucus streaked with blood and, at the same time, rales appear in the chest, at first at the base, then toward the upper levels which are involved successively. There is then no difficulty in recognizing all the symptoms of pulmonary edema and this morbid syndrome, of which Angina Pectoris, was the first step, ends in death."

Etiology: There is no definite etiology for Angina Pectoris. It may occur in a heart which is neither hypertrophied nor shows any sign of pathology. It has occurred in individuals who have, in fact, a smaller heart than normal. The disease is certainly one that occurs far more frequently in men than in women, and, the pathological conditions that have been found up to the present, of a heart of an individual suffering

from Angina Pectoris, have been found to occur in thousands of other individuals without producing any symptoms. Arteriosclerosis of the coronary arteries has been found in these cases and narrowing of the coronary arteries, sclerotic condition of the aorta which may be directly traced to luetic infection; pathology of the aortic valves has been thought to be a causative factor; sclerosis of the larger vessels has also been incriminated. In other words, any pathology that may affect the circulatory system such as, coronary sclerosis, aortic sclerosis, mesaortitis, luetica, are generally considered as etiological factors. In Angina Pectoris, we also may add to this group of causes, neurosis, vaso-constriction which is, of course, of nervous origin, some disturbance of the vaso-constrictors or the vasodilator nervous system. Worry, anxiety and sudden nervous shocks will produce Angina Pectoris. I know of a case while sitting on the porch one summer afternoon and reading the newspapers, the patient had an attack which lasted for eight hours. He saw in the paper where his investments in sugar in Cuba had been severely depreciated, due to some legislation controlling the sugar industry.

It is a difficult matter for the pathologist to state that any of the pathological findings of the blood vessels of the heart or definite muscular pathology of this organ, is the primary cause of Angina Pectoris, for we find it, as we have stated, in individuals who show no cardiac or coronary pathology and again, we find blood vessels and hearts with a great deal more pathology in which there has been no Angina Pectoris Syndromes. In other words, we are handling to a large extent, a number of pathological conditions which may be predisposing factors in Angina Pectoris We find it in patients with thyrotoxicosis, also in severe anemias and no other pathology has been found in these cases that will explain this complex group of symptoms. It has been found to follow acute diseases: beri beri: syphilis: diabetes: valvular diseases of the heart: typhoid fever. It is estimated that one-fifth of one-fourth of the cases of angina pectoris, using all of our available scientific methods of study such as: Electrocardiography and X-Ray, etc., that the postmortem examinations reveal no pathology.

After going over the actual pathological findings and examining our theories which have been set forth in an effort to try to explain Angina Pectoris, we cannot but feel that there is much yet to be done in getting at the cause of this disease, or better, of this syndrome complex. We feel that it is not a disease but only a syndrome. MacKenzie states that these syndromes are produced due to the diminution of the heart's energy, either from heart failure or from obstruction of the coronary circulation with resulting ischemia of the myocardium. The same symptoms may occur with a sudden increase in the size of the heart due in this instance, to dilatation, so that we feel if we sum up these syndromes as due to disturbance of the circulation of the heart, we come nearer the truth as to its etiology.

Differential Diagnosis: The first and most important group to differentiate is the neurasthenic or the so-called nervous patient. She complains of a "heart-ache," of a sharp or stabbing pain or the chest feels as if it had thousands of needles in it. These pains are never located substernally. If the individual is highly neurotic, these attacks follow a nervous disturbance of some kind with a rapid bounding pulse. These attacks are easily stopped by a sedative, frequently by auto-suggestion or by allowing the neurotic individual to have what she wants such as a trip or by assuring the individual that she can get her heart's desire. These cases are far more frequent in women. Many of these patients are easily exhausted, they are suffering from asthenia. These individuals frequently have sensitive spots below the nipples in the mammary line, also over each ovary. After one of these attacks, the skin may become very sensitive over the area in which this attack has occurred which is always on the left side over the heart. They also, in some instances, show an ovarian or endochronic imbalance.

The next and very likely one of the most difficult in which to make differential diagnosis within the first 24-hours, is coronary thrombosis Some state that this pain is more severe and lasts longer than Angina Pectoris We question this statement as we have had both to contend with. Paul D. White states that it is. We disagree with this statement. This pain is very similar and I do not feel that we can make a differential diagnosis from the intensity of the pain of coronary thrombosis and that of Angina Pectoris. Nitrites have little or no effect on these cases. Morphine is frequently the only thing we have to fall back on. The history in these cases of thrombosis is very important. We frequently find that the patient has a definite focal infection. I had one case about three years ago, in which the man was 45 years of age when he had his first attack. Six months before, he had acute nephritis which was followed later by pyelitis, this had been treated. He had been placed on definite diet; exercise restricted and told to be very careful not to chill himself. This attack followed exertion and chilling. Morphine and absolute rest

were the only things that gave this patient any relief.

Occasionally the gall bladder may come in for its share of differential diagnosis. Here the pain is over the region of the gall-bladder and is of a cramping character. The position that the patient assumes, doubled over and lack of that sense of imminent death, the moving around of the patient on the bed, let us remember, that in Angina Pectoris the patient sits up, holds himself absolutely rigid. If the pain radiates, it usually radiates to the right and not the left as in Angina Pectoris. Vomiting frequently accompanies these attacks. The history in these cases generally settles the diagnosis. Morphine again is our anchor. Now, it is not impossible to have an attack of Biliary Colic bring on an attack of Angina Pectoris, again here the localization of this pain, the sensitiveness to pressure of the intercostal spaces over the liver, the character of the pain and its distribution, clinch the diagnosis.

Peptic Ulcers: This pain is more of a burning sensation and the history in these cases very quickly eliminates Angina Pectoris.

Treatment: Rest and nitrites, sitting or standing absolutely still, is of paramount importance during an attack. In the use of amyl nitrite, care should be taken, as it produces marked depression in some instances. 1-2000 to 1-50 of nitro-glycerine by mouth in most cases acts as rapidly and has a more lasting effect and is far less expensive. The treatment of the case between the paroxysmal seizures, is very important and very difficult. If there is luetic history, we should by all means begin anti-syphilitic treatment. If we have marked anemia, the proper treatment should be instituted for this condition. The nervous manifestation should not be lost sight of and there is no drug that acts better than the various preparations of Bromide. Many of the coal tar derivatives have been recommended, these should all be used with a great deal of caution as coal tar derivatives are heart depressants, and other cardiac conditions may exist that would counter indicate their use. Such drugs as Daimine, Theophylline, Ethyllin, Barbatol, Whiskey, Digitalis, Erythrol, Tetranitrate, inhalation of carbon dioxid, and many other preparations have been used, but sodium nitrate, nitro-glycerine, and amyltrite are the drugs of the greatest usefulness and have proved to be the ones that give the best results and we must not forget that Potassi Iodid is of great value in certain cases. The use of potassi iodid over a long period of time alternating with nitro-glycerine or in conjunction with it, is of great help as prophylactic treatment especially where there is high blood pressure and arteriosclerosis.

M. Bandmann has called the attention of the medical profession to the use of Magnesium therapy in Angina Pectoris. Yoshimura was the first to use Magnesium Chloride, . the experimental findings suggested the use of hypertonic magnesium salt solution for treatment of Angina Pectoris. All focal infection should be removed if we are able to find it. Rest is, of course, the most valuable of all therapy. Periodic resting of a week every month or two is of great value. Resting after meals is absolutely essential. The patient must take a moderate amount of exercise within his limits. Recreation is very essential. We must be careful not to make a neurasthenic. Tonic, building the patient's general health, restriction and regulation of diet, strong coffee, alcoholic drinks, tobacco, must all be carefully guarded and watched as to their effect on the patient. A warm climate is very essential.

Thyroid Attack: "A brilliant new strategy of attack on congestive heart failure and angina pectoris was devised by Blumgart, Levine and Berlin, who performed subtotal thyroidectomies successfully to this end. Levy and Hamburger pointed out that hyperthyroidism frequently underlies Angina Pectoris."

"Twenty cases of Angina Pectoris in which the patients had their entire thyroid glands removed, with relief from suffering described as "striking" was reported, by Dr. Herman M. Blumgart and Doctor David D. Berlin of Harvard Medical School and the Research Laboratories of the Beth Israel Hospital in Boston. They pointed out that angina pectoris occurs when the blood vessels are narrowed by arteriosclerosis or other causes, so the circulation cannot increase when the work of the heart is augmented. When the thyroid is completely removed, however, a state of thyroidism is regularly produced in which the heart performs less work and starts at a lower level of oxygen consumption, consequently it can withstand a greater increment of work before reaching the upper limit of oxygen supply set by the relatively fixed circulating blood vessels. They reported that relief of the suffocating angina of the patients whose thyroids had been removed were permanent."

Nerves: In certain cases, para-vertebra injection and nerve section have proved of value.

There is much remaining to be discovered in this syndrome complex that we term Angina Pectoris. The pathology we have found does not give us a definite etiological

foundation, for, we find in individuals, as we have stated previously that have never had the slightest symptom of Angina Pectoris, all of the lesions and more too that have been found in any case suffering from Angina Pectoris and, in from one-fifth to one-fourth of the cases that have come to an autopsy, we have failed to find any pathological lesions whatsoever. Therefore, it is perfectly natural that we are still floundering in deep water in trying to find the proper therapeutic procedure in these cases.

THE BUSINESS SIDE OF MEDICINE*

W. B. Atkinson, M. D.

Campbellsville.

Neither the subject nor the essayist for this particular part of the program was of my choosing. Your lack of interest in what I have to say will be exceeded only by my lack of knowledge of the subject.

To discuss the business side of medicine, we must first consider the business of medicine. What is it? It is the business of medicine to promote health: by the prevention of disease, by the relief of suffering and by the use of measures that may make recovery more rapid, more certain or more complete. The heritage of medicine has had to do largely with the latter two points, while the prevention of disease has only recently been recognized a legitimate child of medicine. In the legal profession every lawyer is considered not only an advocate before the bar, but also an officer of the court. So in the medical profession, every doctor should be counted a guardian of the public health, as well as the adversary of disease.

In the conduct of our business we have had a code, that was old before the New Deal was conceived. Certain obligations are therefore imposed upon us. The first obligation is that to other members of the profession. To work in harmony with your colleagues is both a privilege and a duty. It is a sign of strength and not of weakness. It leads to a higher professional standard, with mutual benefits. It is perfectly compatible to respect the opinion of a fellow doctor, and at the same time to disagree with his conclusions. Like Portia's Mercy, "It is twice bless'd
It blesseth him that gives, and him that takes:
'Tis mightiest in the mightiest."

Unfortunately in some circles the idea has arisen that ethics are to be observed by the new recruits, and to be ignored by the scarred veterans. One example is worth a dozen sermons: one slip negates a hundred favors.

The obligation of the physician to his patient is so well understood, and so universally discharged in Kentucky, that little comment is here required. Suffice to say that medical service cannot be purchased in various grades like other commodities. There is but one grade and that the best each doctor can give.

The third obligation, that of the doctor to the public, either as an individual or in a group, is less evident, though no less real. The preventable diseases are a challenge to the profession: their eradication through personal effort, precept and example is the duty of each doctor. An epidemic, present or threatened, should mobilize a county medical society one hundred per cent to route the invader. The prevalence of typhoid, diphtheria and like diseases should not be considered an opportunity to test our therapeutic skill, but a breech in our defense. The county medical society can be made a most powerful force for public health. If any society will pursue an intelligent program many of its differences with the public health administration will be done away with.

The physician owes to himself a number of debts. He should give himself adequate working quarters, adequately equipped for the work he proposes to do. He should give himself opportunity to grow in both professional and civil life. He should give himself some recreation or hobby. He owes himself and his family a standard of living that is commensurate with the best in his community.

The doctor who discharges the above will find a clientel of satisfactory size. To maintain such a program, and to care for the less fruitful years ahead, the fiscal aspect of medicine as a business must be considered.

The medical care of the indigent, without money and without price is one of the brightest ornaments of honor that adorns the medical profession. That we have often been imposed upon is common knowledge: and that this tendency is growing is feared by many. Doctors themselves have not been entirely blameless. We shall probably continue in our way gladly giving our services to the unfortunate poor, and complaining mildly when some one takes advantage of our unquenchable altruism. But when any organization, be it political, religious, educational, social or what not, attempts to control this phase of medical practice, or to abuse it under any guise, it is time to call a halt.

We as citizens rather than as doctors, also give of our time and effort, freely and gladly to certain projects that are pseudo-medical in type. No other group can do it. To name a few of these: the popularizing of our present knowledge of cancer: advertising tuber-

*Read before the Kentucky State Medical Association, Harlan, October 1-4, 1934.

culosis and its prevention; uncovering venereal disease; helping the handicapped. Care should be taken that our enthusiasm does not lead into the pitfalls that are so numerous and so cleverly disguised along this road.

As has been indicated, to carry out such a program the doctor requires a medium of exchange, commonly called money, which is obtained through fees paid in exchange for services rendered. We expect no return from the poor. Many meet their obligations in a reasonable manner. A minority cause all of our collection worries. Unfortunately this amount often coincides with the doctor's surplus. Many plans and systems have been devised for the collection of these, without pain to the payer and with pleasure to the payee. All have the common fault that they will not work. The practice of medicine is the road to wealth to only a few. Others of us must be satisfied with a lesser share of financial success. There are a number of measures that occur to me of probable benefit.

First we should give a reasonable service for a reasonable fee. What is reasonable cannot be stated here in dollars and cents, but each of us has a fairly clear conception of what is reasonable in our own field of work: depending on various factors, such as the time involved, the difficulties encountered, the risk assumed, the apparatus required for diagnosis or treatment, as well as the result obtained. In the regular routine of work, fees in each locality are fairly well understood. When any unusual measures, either in diagnosis or treatment is advisable, it is well to explain to the one responsible the reason for the procedure and the cost of it. Much misunderstanding is thus avoided. Active participation in other remunerative pursuits aside from the practice of medicine will often lead to a less satisfactory service. Patients will get the idea that medicine is the hobby of the doctor and that he neither needs nor expects compensation for medical services.

In the second place it is well for the individual doctor to choose the character of work that suits him best. This does not necessarily mean to specialize, but to emphasize the types of work in which there is aptitude or unusual interest. Obviously the man who enjoys and maintains active office work will cut little figure in obstetrics. While the one who prefers bedside practice will find the more chronic patients less pleasant and remunerative to deal with.

Third, let the patient understand that you are rendering a valuable service for which you expect to get value received. This does not need to be said in words; but the attitude in examination and treatment will convey the meaning better. You may desire in an individual case to make the fee lower than usual. I think that this is best done by charging the usual fee, and then to explain to the patient that he pays a part and you the rest. The value of the service is thereby maintained.

Fourth, quit talking so much about the number and size of accounts owing to you. Mention them to a colleague perhaps, that he may be warned, but stop broadcasting. Emphasize the fact that the patients whom you most appreciate are those who show their appreciation of your efforts. Consider and treat a patient as honorable until he is proven otherwise. For the latter there are several avenues of approach. Personal approach is by far the best, though the busy doctor has very little time for this and less inclination. Collecting agencies are often disappointing or worse. As a general rule the farther away they are, the less value. Legal threats should be used only when prepared to follow with legal action. Accounts of five years standing or longer depend entirely upon the conscience of the debtor.

Those interested in selling merchandise on the deferred payment plan have found that later installments are more promptly met when the buyer has an equity in the article purchased. So in buying medical service, a small but early beginning often leads to a happy ending.

Many agencies are now at work to persuade the public and the doctor alike that socialized medicine will cure the financial ills of both in times of sickness. The great majority of physicians are in the private practice of medicine, and it is the overwhelming opinion of these that such a change would work harm to all concerned. So many flaws have been demonstrated in the remedy that we feel that it is worse than the disease. He who leads the way out of the present wilderness will be a veritable Moses, and like him I fear, will not himself reach the Promised Land.

DISCUSSION

G. G. Thornton, Lebanon: I note by the hand-clapping that this paper touched the hearts of all present. The paper was clear, concise, clean, but was hardly complete in its elucidations of the entire subject. So far as it dealt with our business relations with our professional brethren I think it was wholly orthodox. In so far as it dealt with our business relations with the public in general in the way of education and sanitation and vaccination for the purpose of preventing diseases, it is wholly to be commended. But there is just one point that I would like to emphasize in regard to the practice of medicine that was not brought out

in the paper, and that is the great and important necessity in our combat with disease, of an early start, diagnosis. In practically all diseases this is important, but especially would I emphasize its importance in our dealings with those two diseases which stand out so prominently in the columns of the mortality statistics, namely, pulmonary tuberculosis and cancer. In these diseases, if seen early, with proper management on the part of the doctor and intelligent cooperation on the part of the patient, we can promise much, but when seen late when the cases have advanced to the point that the layman or he who runs may read the diagnosis, then we can promise but little. When the process has progressed to the point that the laity and everybody who sees the patient knows what is matter, practically everybody knows what the results will be. The earlier the diagnosis is made, the more hope there is of giving results that will be beneficial, and the easier the diagnosis the less prospect there is for results.

The part of this paper that I think the essayist meant for me to discuss and on which he barely touched, is the financial side of the profession. From my observation of the transactions of medical societies in times past, this subject has been treated sub rosa, but now that we are confronted with a condition and not a theory, it is time for us to bring it into the limelight. It is our business to prepare ourselves for the practice of medicine, and that means no little outlay in the way of money, in the way of energy, in the way of industry, in the way of intelligence, and after we have prepared ourselves it is our business to so conduct ourselves that we will acquire a practice, and after we have acquired it, it is our business to so manage that practice that we will retain it; it is our business to impress upon our patients that we are prepared for this responsibility, and it is our business to give them to understand that under any and all circumstances we will be honest with them, that we will be fair with them, and that we will treat them, if we treat them, just as we would have them treat us if the circumstances were reversed. It is our business when proper occasions arise to give them to understand that one should never, if it be possible to do otherwise, intrust their lives or health to any one into whose hands they would not intrust their pocketbook. It is our business to let them know that it is the privilege—prerogative if you please, of the patient to doubt the ability of the doctor but when there is doubt as to his integrity it is time to change doctors. It is our business to collect our bills, when we can, and as I suppose my experience coincides pretty closely with that of most general practitioners, I want to show you how I simplify it. I divide my clientele into three classes.

Class number one, those who pay cash or will pay as soon as they get it. Class number two, those who pay cash, or never pay. Class number three, those who are good but who rely on that to stand the doctor off as long as he will stand for it. As any one can see, there is no need to send a statement to the first class as it would only worry the patron and possibly cause him to feel a little less kindly towards his doctor.

The second class would only cause us to waste a little more time and an additional expense of money for stamps and stationery by sending a statement that would go unheeded. It is the third class that needs our careful and constant attention.

Of course I sometimes get a patient in the wrong class but as I am the only one who knows how I have classified them it is easy for me to make the change. It is our business to keep our books so that we can tell a patient at any time the exact amount of his account, and if payment is ready, to be prepared to collect it. Many an account that is good today may be worthless in a year from now. It is our business to keep a cash account, so that we can know at the end of each month and each year, just how our collections are running and that if we so desire we can compare them with previous months or years.

E. M. Howard, Harlan: I don't feel very competent to discuss the business side of medicine, but Dr. Atkinson has so thoroughly covered the subject, as he usually does, that it seems to me he just about excelled himself in this paper.

If we are going to have any business side of medicine, first is the preparation. When a young fellow comes out of college these days he is pretty well prepared, or he should be. By the time he serves his internship he is very well prepared. If he will apply the rules that Dr. Barbour told us when he was teaching a special course in pediatrics several years ago, he will get along. He said, "Gentlemen, every time you go to see a patient find something and let that family know that it was necessary that you were there that time. Don't go in and say, 'He is doing very well, we will continue the medicine just as we have been.' Find some little thing, if nothing else, and let the patient know that it was necessary for you to be there and that you have a vital interest in that case." If you impress upon your people that you are sincerely interested in their welfare, if you impress upon this mother and father that you are interested in that little child's getting well, or if you impress upon the wife that you are interested in the husband getting well, they are going to appreciate it. Some do and some don't. The ones

that appreciate it will pay you if they can. The ones that don't appreciate it will let you know. As Dr. Atkinson says, we have different avenues of finding that out, and it is not usually hard to find. We all know that class of cases.

Some of you gentlemen from western Kentucky probably remember Zeb Stewart, a very splendid lawyer in our town here. He had a witness on the stand, and he wanted to lead his witness and get him to tell his story in the way that would best be presented to the jury. The witness would branch off and he couldn't do anything with him. Finally Zeb said, "Well, go on in your own fool way and tell the jury what you know about this case."

I think too often in the business side (and the business side really, so far as the doctor is concerned, is the financial side), we go on in our own fool ways and let it take care of itself. Our first interest, I believe we all agree, is to our patient, but we have families to support and to educate, the same as our patients have, and if you give this patient and his family every attention possible and impress upon them that you are sincerely and vitally interested in their welfare, the business side will take care of itself.

W. B. Atkinson, (in closing): I used up both of my brain cells in preparing this paper, so I won't take any more time.

HERNIAE OF THE URINARY BLADDER*

Guy P. Grigsby, M. D.

Louisville.

History: As long ago as the Eleventh Century, Albucusis described bladder hernia, and Sala wrote of this condition in the Thirteenth. Then followed communication by Guy De Chaulliac in the Fourteenth, Felix Plater of Balse in the Sixteenth Century. Two hundred years later, Verdie wrote a classic on the subject, and from then until 1889, practically no observations of importance were recorded. Isolated cases were reported by Percival Pott, John Hunter and Ashley Cooper. To quote Moynihan, "The rarity of recorded examples is due, it would seem, rather to lack of pertinent observation than to the infrequent existence of cases."

Actual hernia of the bladder, while not commonplace, is by no means a surgical curiosity. If one accepts the classification of Bruner and of Eggenberger of dividing bladder hernia into two groups, those which are manifest and those which are latent, we have a condition which is by no means rare and one which every surgeon has likely encountered more than once. Considering the large number of inguinal and femoral herniae extant, the percentage of bladder hernia is comparatively small. The literature shows not only that bladder hernia is infrequent, but also that when it exists surgeons usually fail to make diagnosis before, and sometimes during operation.

Etiology: The most important causative factors of hernia of the bladder are age and sex. Verdie as early as 1753 observed that it usually occurred in old men. It might also be said that anything that dilates hernial rings or increases the volume of the bladder favors the incidence of the disease. (A) Age and Sex. Bladder hernia is primarily a disease of adult life and old age, though it has, very rarely, been found in children. Adams saw it in a child eighteen months old, and the patient reported by Corner and Roundtree was the same age. In 241 hernias of the bladder collected by Eggenberger, 168 were in men and 73 in women. It was most frequent in men between the ages of fifty and sixty and in women between thirty and forty. (B) Changes in the bladder. Habitual over-distention of the bladder and flaccidity favor bladder hernia. Distention may be due to prostatic disease, to obstruction in the urethra or to cystitis. When it continues, there is deficient contractility of the bladder, which is followed by muscular atony and flaccidity. The bladder remains permanently enlarged and overlies the hernial orifices, which it may enter, if the latter is widely dilated. In youth and early life, the abdominal muscles exert a restraining effect on the development of bladder hernia, and in old age, when this restraint has given way to flabbiness, with the resultant relaxation of the hernial rings, conditions are favorable for the development of vesical hernia, especially so if there follows an exciting cause, such as an effort or strain. Many of the patients give a history of long standing constipation, prostatic disease or cystitis. (C) Relaxation of Abdominal Wall. The relaxed abdominal wall is not only a predisposing cause of inguinal and femoral bladder hernia, but is also a factor favoring protrusion of the bladder through abnormal openings in the linea alba or muscular wall, such as occur in post-operative ventral hernia. This point has been emphasized by Plummer, who believed that closure of the sac at first operation draws the bladder toward the internal opening and in case the hernia recurs, the bladder is liable to be one of the contents of the sac. is probably present in a very small number (D) Congenital Predisposition. This factor

*Read before the Louisville Medico-Chirurgical Society,

of cases, as a large majority of patients are adults or elderly before hernia is noted. It is probable that in some cases the bladder itself does not enter the sac, but there is a diverticulum that extends from the bladder through the hernial opening and which in time may become enlarged, closely resembling a portion of the bladder proper. A few undoubted cases of congenital hernia have been reported. (E) Pre-vesical Lipoma. The mass of pre-vesical fat is adherent to the anterior portion of the bladder and according to several authors the bladder is drawn through the hernial orifice by the traction exerted by the lipoma. Other authors state that, the more fat there is present, the easier it becomes to strip off the parietal peritoneum from the bladder and with a well defined lipoma the bladder is loosely attached and it is easy for it to slip into a hernial opening. A pre-vesical lipoma or lipocle was noted in 24 of the 180 cases collected by Bruner. In 110 cases collected by Eggenberger a pre-vesical lipoma or a large mass of fat was present in 50 per cent. (F) Traction of Enterocele and Omentocele. Secondary cystocele may result from traction of a pre-existing hernia or from protrusion of a flaccid or distended bladder into an old or large hernial sac. This protrusion may be spontaneous or the result of traction following intestinal or omental adhesions. (G) Hernia of the Bladder in Women. Inguinal hernia of the bladder is less frequent in women than in men, while femoral hernia of the bladder occurs almost always in women. Of 42 cases of the femoral variety collected by Heineck, 40 were in women. The most important cause in the development of this condition in women is pregnancy. During the early months of gestation, the uterus does not exert much pressure on the bladder, but as it enlarges it not only presses on the bladder, but it puts it on a stretch, causing it to change its shape. Also, the pressure of the uterus on the ureters causes disturbances which may favor retention of urine and distention of the bladder.

Anatomy: When distended, the bladder assumes a fusiform shape and when emptied it contracts and recedes into the pelvis in a flattened conical form. The anterior and lower lateral portions of the bladder are devoid of peritoneum and are attached to the adjacent pelvic structures by areolar tissue. Next to the stomach it is the largest hollow viscus in the body and is suspended superiorly by the urachus, being fairly fixed at its base. The bladder is movable and thus capable of being carried in part to any of the hernial openings.

Classification: In looking through the literature, the classification of Villard seems to be generally accepted with occasional variations. The types are: (1) The intra-peritoneal variety, in which the bladder is completely surrounded by peritoneal sac; (2) the para-peritoneal variety, in which the bladder is partially surrounded by peritoneal sac, which may in some instances be very small, and (3) the extra-peritoneal variety, in which the bladder has no relation to a peritoneal sac because there is none.

Authors do not agree as to the relative frequency of the types, and many of the cases described are not clear as to the peritoneal relations; but apparently the most frequent type is the para-peritoneal.

Pathology: The bladder hernia may be inguinal, direct, or indirect, or appear in the femoral canal. The difficulty or impossibility of finding a true hernial sac often presents itself, and this is easily understood when one recalls the relation of the bladder to the peritoneum. If a true sac is present, it will be found that the neck of the true peritoneal pouch directs its pedicle away from the midline, whereas, if the sac really consists of the bladder or a bladder diverticulum, its pedicle is directed toward the midline. The spermatic cord usually lies to the outer side of the sac, may be spread over, behind, or below and external to the sac. Excessive fat in the inguinal canal and the pre-vesical lipoma already considered as a possible etiological factor are also considered pathological findings of bladder hernia. The pathologic findings in the bladder itself are not constant. The bladder wall may be thick or thin. The hernial portion may be a part of the bladder proper or it may be a diverticulum.

Diagnosis: In going over the recorded cases, one is impressed by the infrequency of a correct diagnosis. The patient generally comes to the physician because he notices a bulging or rupture in the inguinal, or in the case of a woman, in the femoral region. This bulging may of course consist either of the bladder or a bladder diverticulum, excessive pre-vesical fat, an intestinal or omental hernia, or a combination of these. In addition, hydrocele and varicocele, inflammatory glands, and new growths must be kept in mind. A second important symptom is the effect of urination upon the swelling. Heineck and Watson have used the term "two step" urination in which the patient first voids the urine contained in the bladder proper, and following this, is able to pass the urine which has accumulated in

the portion contained in the hernia. The next step in making the physical examination should be that of taking note of the effect of urination on the size of the hernia. If it decreases in size, a portion of the bladder is very likely to be present in the sac. Another diagnostic point is that after reduction a doughy mass still presents itself. This mass is probably pre-vesical fat.

Herniae of the Bladder: Watson states that a non-reducible hernia should suggest a bladder hernia, and a direct or recurrent hernia should also place the examiner on guard. Valuable information may be obtained by means of the x-ray, in conjunction with catheterization, following the injection of air, iodide or bromide solution. Briefly, extra-peritoneal bladder hernia may be diagnosed.

Before Operation:

(1) By taking a careful history;

(2) By the presence of a large ring;

(3) By slight or even totally absent impulse on coughing;

(4) By the appearance and disappearance of the mass;

(5) By the increase in the size of the hernia with a full bladder;

(6) By the fact that pressure on the hernia may cause micturition or passage of urine along the urethra;

(7) By x-ray study revealing diverticuli.

At Operation:

(1) By the presence of a pre-vesical lipoma;

(2) By the absence of a peritoneal sac;

(3) By the fact that the pedicle does not lead into the peritoneal cavity, but behind the pubic bone;

(4) By the presence of a large inguinal ring;

(5) By the use of a sound in the bladder.

After Operation:

(1) By the escape of urine from the wound;

(2) By bloodstained urine.

Treatment: Obviously the treatment of a bladder hernia is surgical. If complicated by an omental or intestinal hernia, the important points are to secure a competent repair of the abdominal wall and to avoid accidental opening of the bladder. Finally, in all inguinal and femoral hernia, especially in people past middle life, the possibility of the involvement of the bladder should be kept in mind and no danger signal be permitted to go unheeded.

Case Reports

Case I: I would like to include in this paper two case reports of bladder hernia that I think are rather unusual.

Miss F. R., age 34. An operation two years previously for hemorrhoids. About March of 1931, she noticed in the right groin a mass that patient thought was an enlarged gland. While in the east consulted some physician who was uncertain in his findings, but also thought that perhaps it was an enlarged cystic gland.

She reports that in past two months this mass has increased in size and at times is larger than at others. Also, that when she lies down at times it will entirely disappear.

She first came in for examination on December 15, 1931. Examination at this time showed a mass in the femoral canal about the size of a small lemon. Unquestionably it was cystic in character, irreducible and painless. No impulse could be felt when patient coughs. The impression was that we were dealing with a femoral hernia and from the cystic character, the question of a bladder hernia was thought of.

Patient was allowed to pass urine and catheterization did not reveal any residual urine, nor was there any decrease in the size of the tumor. Patient was told that we felt sure she had a femoral hernia and that operative repair should be done.

She was operated upon January 11, 1932, at the Jewish Hospital. The usual Bassini incision made over mass. As soon as the fascia was opened a cystic tumor presents itself in the incision. Careful dissection of this tumor shows it emerging from the femoral canal. The femoral ring is exposed and is enlarged by a small incision. The hernial mass is pulled down and it proves to be the bladder. There is a constriction at the neck of this tumor at about the point of its emergence from the femoral ring. There seems to be a small communication between the bladder proper and this tumor. Careful pressure over the mass decreases its size. The tumor is excised at its junction with the bladder. The bladder is then closed with a suture of chromic catgut, the second line of sutures being enfolded by Lembert sutures. Usual technique for repair of femoral hernia is done.

This patient made a good operative recovery and has had no recurrence of her condition up to the present time.

I think it is interesting to note that in this case we were dealing with an extra peritoneal type of bladder hernia, that in my experience has been very uncommon, this being true even though in this instance it was in a female and was a femoral type of hernia. I was unable definitely to determine whether the herniated portion of the bladder con-

sisted of a diverticulum, or whether it was a portion of the normal bladder. Its appearance at the time of operation was suggestive that a portion of the free bladder had become fixed in the formal canal, and that the constriction was due to the continued pressure of the femoral ring.

Case II: The second case also presents some unusual factors.

This man, Mr. R. C., is 39 years of age. I first saw him on September 16, 1931. On August 18, he was injured while spiking ties. He suddenly felt some pain in both inguinal canals, pain persisted and he was unable to continue at his job. He claims that when he reached his home that examination of himself showed a bulging mass in each inguinal canal.

My examination shows a man in good general condition. He says that he is subject to colds and usually has a slight cough. Examination of the lungs was negative except for some moist raies in the large bronchi. Examination shows that he has a double direct inguinal hernia. There is distinct impulses on coughing and quite a large defect can be felt in the structures of the inguinal canal. There is no evidence of a femoral hernia on either side.

On September 31, 1931, under spinal anesthesia, the usual hernia operation was done. The inguinal canal was opened on each side. The bulging mass can be distinctly felt and seen when patient coughs. The hernia presents at the lower angle of the inguinal canal, but as there was no distinct sac present, it was not thought necessary to open the peritoneum. The bulging portion of the peritoneum was plicated, the muscles and aponeurosis were sutured to Poupart's ligament by three separate lines of sutures, the cord being transplanted.

Following this operation, which as noted was done under spinal anesthesia, the patient developed a severe bronchitis within the first twenty-four hours. There was considerable cough and temperature was as high as 104 degrees. As pneumonia seemed to be impending, Dr. Morris Flexner was asked to see him in consultation. This condition lasted three days, in which time there was severe and persistent coughing. As soon as he was placed under an oxygen tent his alarming symptoms soon subsided. On the sixteenth day in the hospital he was dismissed with both wounds healed.

On his return to my office three weeks later, he presented a mass in both femoral canals. These presented all the typical signs of a femoral hernia and both could be easily reduced. Both Dr. Frehling and I were positive that a femoral hernia did not exist at the time of the first operation. The femoral canals at the time of the operation and previously were examined and there was no evidence of any hernia being present. The patient was advised of his condition and readily consented to another operation.

Again operated on November 2, 1931, this time under gas anesthesia given by Dr. E. H. Baker. Incisions made over the bulging area on both sides. Upon dissecting free the fascia lata, a hernia is found emerging from the femoral canal on both sides. This proves to be bladder surrounded by pre-vesical fat. There is no evidence of a peritoneal sac and the fingers can enter the femoral canal and can be pushed upward to the pre-vesical space apparently without entering the abdominal cavity. Also, the inguinal canal is palpated by the finger on each side and there is splendid closure of the inguinal canals from previous operation. The bladder is freed from its pre-vesical fat, and is pushed above the femoral ring. The femoral ring on each side is closed with three sutures of double No. 2 chromic catgut. The femoral ring on each side is also re-inforced by a flap of the fascia lata.

Following this operation this man went through practically the identical course of lung involvement, that he went through following his first operation, the cough and temperature being present, lasting for about forty-eight hours, then again subsided as soon as the patient was placed under an oxygen tent.

The interesting points about this case are the appearance of a double femoral hernia that we are positive was not present at the time of his first operation, that the femoral hernia consisted of the free portion of the bladder, and that no peritoneal sac was present, and that the patient again presented the same lung complication as at the first operation in which spinal anesthesia was used, when operated the second time under gas anesthesia.

DISCUSSION

F. M. Massie: I wish to express my thanks to Dr. Spurling and to the members of this Society for the privilege of being present tonight and hearing Dr. Grisby's splendid paper, which I have thoroughly enjoyed.

I would like to ask Dr. Grisby two questions. First, whether he clamped the bladder at the femoral ring in removing the diverticulum or bladder extrusion, whichever it was? Second, when he sewed it up, did he transfix the bladder and, if so, did the patient leak a little urine for a few days after the operation?

J. Garland Sherrill: While my experience has been that this condition does not occur very frequently, still it is not a rarity by any means, I can recall but three cases in my experience and a few others in the hands of my colleagues. I must confess that in none of my own cases was a diagnosis of bladder diverticulum made prior to operation. When we consider the situation of the bladder and the fact that the peritoneum simply lies in front and covers it over as it goes up into the abdomen, we can understand why there is no peritoneal sac in most of these tumors.

All the bladder hernias that I have seen were sliding hernias. This type is not easily diagnosed prior to operation and many good surgeons have injured the bladder in making dissection to relieve the hernial sac in such cases. However, catheterization and x-ray in a suspected case will usually clear up the diagnosis. In dealing with a case of this type, incision should be made above the pubic bone in the medium line, freeing the bladder and pushing it down into position and then making repair in such manner as will provide a peritoneal covering between the bladder and the line of fascia so as to prevent a recurrence.

When a bladder hernia occurs in the femoral ring I believe there is always a congenital defect. Hernias of this type nearly always occur in women.

Louis Frank: The comparatively few cases of bladder hernia that I have seen have practically all been of the sliding type and all of them have been of the direct type. I have never seen the bladder out in indirect oblique inguinal hernia, and the assertion is made by some authorities that such a condition does not occur. I have seen portions of the sigmoid and in one case a portion of the ureter out in hernias on the left side. I have seen sliding hernias which contained a loop of bowel and a portion of the cecum, also a portion of the bladder.

The first case I saw I reported to the County Society many years ago and the late Dr. Dugan in his discussion made the point that these hernias are all direct, and I insisted that in my case it was an indirect hernia, but I found out later that I was wrong; that they are practically all of the direct type.

Where the bladder is out in a sliding hernia it is absolutely necessary to reconstruct the peritoneal covering over the bladder before putting it back into the abdominal cavity. If this is not done recurrence will inevitably result.

In dealing with postoperative or ventral hernias, the important thing here is not to open the sac at all; simply dissect it free, push it back into the abdominal cavity and close up the external structures.

I would again accentuate the fact that in sliding hernias of the bladder, particularly on the left side, we are apt to find other structures included in the hernial sac. I have never seen a case in which the bladder itself, with its peritoneal covering had been forced into the hernial sac in either direct or indirect hernia. Every evacuation of the bladder carries it up into the abdominal cavity and to conceive of such a condition existing and not manifesting itself until the individual reaches a mature age would be to presuppose a very large opening and the herniated portion sliding back and forth as the bladder fills and empties and I cannot conceive of such a thing occurring.

Harry S. Frazier: I was particularly interested in the second case in which pulmonary complications occurred following both general and spinal anesthesia. I had occasion to review the literature along this line a year or so ago and it was interesting to me to find that atalectatic complications occur just about as frequently following spinal anesthesia as they do after gas-ether and oxygen. It occurs to me that Dr. Grigsby's patient probably had a chronic bronchitis or bronchiectasis of perhaps several years standing, which rendered his lungs more liable to collapse.

G. C. Grigsby, (in closing): Dr. Massie's question is a very pertinent one. In the case he refers to we put a double row of Lembert sutures in the bladder. Really the bladder proper had almost excised itself at the line of constriction where it was so thin that it was almost impossible to force the urine back into the bladder even by direct pressure. There was no leakage of urine following the operation.

That indirect inguinal hernia of the bladder does occur was most vividly impressed upon my mind when I was an interne at the Ruptured and Crippled Hospital in New York. Examination of a child about nine years old prior to operation at the clinic revealed such a large mass in the inguinal canal as to lead me to suspect the possibility of a bladder hernia, and upon catheterizing the patient and squeezing on the hernial sac I was able to obtain some six or eight ounces of urine which had not been voided when the bladder was emptied. This made the diagnosis positive in my own mind and it was later confirmed by operation.

Treatment of Ulcerous Colitis with Blood Transfusions.—Hulst and Hartog administered from 400 to 500 cc. of citrated blood, comprising from 40 to 50 cc. of trisodium citrate at 2.5 per cent, to four patients presenting ulcerous colitis. These transfusions were administered only after dietetic and medical treatment had been tried and found wanting. Two patients evinced immediate improvement, while the other two began to improve only after repeated transfusions.

SYMPOSIUM ON HAY FEVER

THE PRESENT STATUS OF METHODS USED IN THE TREATMENT OF HAY FEVER*

ARMAND E. COHEN, M. D.

Louisville.

In 1819 Bostock contributed his famous paper entitled, "Case of a Periodical Affection of the Eye and Chest." Regarding the treatment of his own case, he states, "Topical bleeding, purging, blisters, spare diet, bark, and various other tonics, steel, opium, alterative courses of mercury, cold bathing, digitalis, and a number of topical applications to the eyes, have been fully tried." He further informs us that, though these measures were "persevered in with an unusual degree of steadiness, it is doubtful whether any distinct or permanent benefit has been derived from any of them."

From that date until this, the multitudes of medicaments, cures and manipulations advocated, by their very number bear testimony to their general inefficiency and unsatisfactory character.

Some of the older therapies seriously recommended in the present light appear most ludicrous. One German author in 1893 claimed to have been "able to lead an endurable existence during the hay fever season" through the mere expedient of rubbing his ears. The following year another writer admitted of obtaining years of most complete success in the management of the disease by the use of diet, air bathing, and the abandonment of every fiber of clothing beyond the respectable covering of the body. In regards to the advice of his German colleague he states that, "any doctor (suffering from hay fever) who does not directly cool his head instead of warming his ears, ought to have the latter soundly boxed." Still another physician advocated wearing elastic garters, three suits of heavy underwear and lowering the room temperature by suspending a piece of ice from the ceiling.

In 1876 Beard recommended that the patient try the following drugs, among which in nearly every case would be found something that would give sufficient relief to compensate for the effort. He recommended the following:—Strychine, iron, phosphorus, cod liver oil, opiates, cold powders (camphor, ammonium carbonate, and powdered opium), potassium bromide, hydrated chloral, belladonna, iodine, potassium iodide, aconite, digitalis, veratrum viride, gelsemium, guarana, caffeine, hydrocyanic acid, ammonium chloride, amyl nitrite, iodoform, ergot, ipecac, inhalations of ether or chloroform, apocynum and dromiflorum, grindelia robusta, quinine, arsenic and whiskey; Turkish and Russian baths, and galvanic electricity, "applied centrally and locally." Additional therapy advocated included Valerian with senna, Nux Vomica, Opium and belladona, Morphine (hypodermatically) morphine and atropine, terpin hydrate, suprarenal extract, hydrochloric acids, sodium bicarbonate, Thyroidine ergotin and hydrastis, ethyl morphine hydrochloride, diphtheria antitoxin, nitro-hydrochloric acid, radium emanation water, intravenous injection of distilled water, intravenous injection of hydrochloric acid, homeopathy, local inhalations of chlorinated lime solution, camphor solution, ammoniated steam, salicylic acid, ethyl iodide, chloroform, menthol, medicated cigarettes, Duodosalicylic acid, the wearing of smoked glasses and goggles, nasal filters or plugs, the use of ladies veils, closing the nostrils by using a brass clamp, plugging the nasal ducts with dumb-bell shaped pieces of glass, the use of various electrical devices, intramuscular injections of benzoyl-para-amino benzol-3-6-8—hydroxy-naphtalamine .005-.01 grs. on two successive days. Also recommended were similar injections of the symmetrical urea of p-benzol-p-amino benzol-1 amino-8 napthol-3-6-sodium sulphonate.

More recently the therapy recommended included, intradermal injections of Wittes peptones, intradermal injections of the patient's own serum, roentgentherapy applied to the root of the nose, use of nasal diathermy with special electrodes, sodium bromide, injection of various iodine preparations, intraoccular installation of Pollantin (agueos alcoholic-ether extract of Jaborandim) morphine in small doses, organotherapy, bacterial vaccine particularly so-called, "'Cold Vaccine," calcium therapy, ultra violet irradiation, plus calcium thyroid medication, a revival of the use of Nitro-hydro chloric acid, high frequency currents, Kromayer lamp application with suitable quartz rods the anterior and posterior nares, general quartz lamp irradiation.

Since 1881 surgical treatments, if possible more bizarre than the medical regimes, have found enthusiastic advocates among the profession. A number of mechanical proceedings recommended were: galvanocautery, chemical cauterization with chromic, carbolic, nitric and glacial acetic acid, correction of intranasal abnormalities, turbinectomies, resection of the ethmoid, massage of the nasal mucosa by the so-called scrubbing process, intra nasal application of heated air, spraying of the nasal mucosa with strong solutions of biniodide of mercury, irrigation of maxillary antra, insufflation of aristol and similar sub-

*Read before the Jefferson County Medical Society.

stances into the antra through the normal ostium, bilateral excision of the tubercle of the nasal septum, resection of the nasal nerve, injection of alcohol into the nasal nerves.

Despite this enthusiastical age of surgical treatment of hay fever, Knight, in 1903, in his book "Diseases of the Nose and Throat," states that, "In spite of all that can be done, the melancholy spectacle is all too frequent, of an individual who has exhausted the resources of the general practitioner, who has experimented with every known quack nostrum, who has had most of his original intranasal structures removed by the ardent rhinologist, and who still remains the unhappy victim of hay fever."

It is now fully established that if a nasal operation has cured an alleged case of hay fever, the malady in question was not hay fever.

The first experiment recorded in medical annals showing that pollen was the causative agent of hay fever was made in December, 1835 by Kirkmar. He noticed in his green house a plant of sweet vernal grass in bloom, well laden with pollen. Being a sufferer from hay fever he decided to test the possibilities of inducing symptoms with this plant upon himself. He rubbed off the pollen with his hand and sniffed it. Almost immediately he developed all the symptoms of a moderately severe attack of hay fever which continued for almost an hour.

It was nearly thirty years later that Blackley, also a hay fever sufferer, made a definite systematic effort to determine the nature of the response of a hay fever patient to diverse methods of testing with various kinds of pollen, dust, and other substances. There was so much controversy among the profession regarding the various theories as to the cause of the disease that thirty more years elapsed until, in 1903, Dunbar, through his researches set the stamp of finality on the pollen theory of the disease. His chief reliance from the diagnostic standpoint was the ophthalmic reaction following installation of pollen extract into the conjunctival sac. The use of the skin as the principal medium for making diagnostic tests came into vogue with the introduction of the cutaneous test for tuberculosis by Koch, in 1890.

In 1909 Smith at the suggestion of Thayer, used the first scratch test. Noon, in 1911 reported the results obtained in the treatment of hay fever by active immunization with subcutaneous injections of pollen extract. He was the first to establish the active immunization therapy of hay fever on a practical and scientific basis. This method is now recognized as the only satisfactory method of the treatment of hay fever. In properly diagnosed cases and with sufficient treatment, complete relief may be given in 95 per cent of all cases. The remaining five per cent may be inherently unable to develop an immunity, or certain secondary sensitizers, particularly fresh fruits in the diet, may be the cause for failure.

The most frequent cause for failure to obtain results is due to insufficient treatment. Since in this locality the pollen count, particularly that of ragweed, has one of the highest averages in the country, the commercial treatment sets of 15 to 16 graduated doses which immunize a patient from 1200 to 5000 pollen units, cannot be expected to completely desensitize. The patient's tolerance should be raised to 50,000 units. To obtain this degree of tolerance it is necessary to take anywhere from 60-80 doses. This immunity requires a longer pre-seasonal treatment than the usual 6-8 weeks period. Once it is obtained, it is both economical and advisable to maintain this tolerance by monthly injections throughout the year. The average patient who maintains this hyposensitive state for a period of three years will entirely over come this particular hypersensitization.

When treatment has been begun co-seasonally, that is at a time after the beginning of a season, you can obtain fairly good results in about 60 per cent of the cases. I have found that the best plan is to treat these cases with frequent, small, intra-dermal injections and controlling untoward symptoms by means of tourniquet and adrenalin. While it is claimed that extracts made up with glucose are less irritating for intra-dermal work, the matter of what menstrum is used is of secondary importance to consideration of potency and deterioration of extracts.

While hyposensitization is generally accepted as the only efficient treatment for hay fever, there are a number of adjuvants helpful in cases which have had no specific treatment or insufficient treatment to render them symptom free. Of these palliative measures of established efficiency, can be mentioned: cocaine and ephedrine as nasal drops or spray, ephedrine, adrenalin, morphine, especially in the control of so-called hay fever asthma. About 35 per cent of hay fever sufferers find repeated oral administration of ephedrine effective in controlling symptoms. The untoward nervous reaction attributed to this drug can often be controlled by the simultaneous administration of sedatives, particularly bromides and the barbiturates.

A number of substitutes for ephedrine and adrenalin have been introduced, none of which seem to have virtues sufficient to gain popular use. Some of these substitutes are, Ephitonia Phenylethanolamine Sulphate, Salvanin, Tyramine Synephrin.

During the past year there appeared a revised interest in the use of pollen air filters, however, there was nothing new added to the original filter, (Milton Cohen in 1925) except additional air conditioning attachments. The addition of air conditioning machinery makes the price of the apparatus almost prohibitive to the average user. For similar economic reasons fewer hay fever patients are allowed the luxury of ocean-voyages and journeys to Europe. Moreover, the partial avoidance of the pollen as may be experienced at some of the hay fever resorts, or complete avoidance as on an ocean voyage, or remaining indoors in pollen filtered air, does not cause the patient to overcome his hypersensitive state. He may later develop year-round rhinitis, asthma or other allergic complications.

In conclusion: I think it is possible to state, that at the present time, hyposensitization alone or with such adjuvants as ephedrine, adrenalin, cocaine, or morphine, is the only measure offering satisfactory treatment for hay fever.

I wish to acknowledge the very free use of material, particularly historical reference, taken from the text "Asthma and Hay Fever in Theory and Practice," by Coca, Walzer, Thommen.

VERNAL CONJUNCTIVITIS*

ALBERT E. LEGGETT, M. D.

Louisville.

Vernal conjunctivitis is characterized clinically by redness of the eyes, lacrimation, itching and frequently by a ropy tenacious discharge. Both eyes are involved but not necessarily at the same time.

The onset coincides with the beginning of warm weather and usually lasts until fall, at which time the limbic type completely disappears. The lid type is usually free of symptoms with beginning of cool weather, but there may be some pathological changes remaining during the winter months.

The duration of the disease varies from two to ten years, the average being probably three to four years, but some cases have been known to persist for many years.

There seems to be no striking family history. In Lehrfelds series he found in no instance a second case in other members of the family.

Etiology: It occurs most frequently between the ages of five and fifteen, but may occur at any age. The male sex is more susceptible in ratio of approximately 85 to 15. Dry heat seems to be an exciting factor.

*Read before the Jefferson County Medical Society.

Many theories have been advanced as to the underlying cause; of these Lehrfeld, in Archives of Ophthalmology, August, 1932, gives three of importance as follows:

1. An expression of some constitutional disorder, as of the ductless glands.
2. An evidence of a vagotonic state and lessened suprarenal activity.
3. An ocular manifestation of an allergy.

The absence of positive skin tests in all cases of vernal conjunctivitis has caused the ophthalmologic profession to doubt the allergic etiology of this disease. Many cases of urticaria and eczema which are considered of allergic origin, do not give positive skin reactions. Failure to obtain a positive skin test in these cases, does not disprove its allergic origin, but rather tends to prove that our technique is at fault. The intradermal test seems to be more reliable than is the scratch method. According to J. Alexander Clarke, Chief of Hay Fever and Asthma Clinic, Jefferson Hospital, it is necessary to use a solution from one hundred to one thousand times stronger to get a skin reaction in vernal conjunctivitis, than is necessary in hay fever.

We recognize an allergy that is due to heat and mechanical irritation and is not a part of protein sensitivity. Some cases of asthma and rag weed dermatites do not give positive skin reactions. It is now known that pollens contain an active principal oil in addition to a water soluble agent. It is thought that the oily extract is the cause of eczema and the watery extract the cause of hay fever.

Vernal conjunctivitis seems to have something in common with both hay fever and eczema. Like hay fever it is seasonal, both have eye manifestations, eosinophils are present in typical secretions from each. Like eczema, in that there is persistent inflammation. Two types are recognized, the limbic and lid. I would like to quote in part Lehrfeld's excellent description of these two types.

The limbic type may last the entire summer. It is never so troublesome as the lid type and has a smaller number of periodic occurences, no case in his series persisting for more than six seasons. Most of the limbic type occurs in children. Eosinophilia is highest in this type, but, in very early stages is not marked. Around the limbus may be found varying numbers of single, discreet vesicles, these may be in the various stages of recession and progression or the initial vesicles may remain throughout the attack. There is no tendency for these vesicles to break down or ulcerate.

This type may be associated with intense itching, but in most cases this is mild. The

severity of the itching is not determined by number of vesicles, one or two may cause severe itching, while complete limbus involvement may be attended by only slight itching.

The limbic variety is most frequently seen in negroes. Discharge is slight. The visual acuity is not impaired.

Lid type is divided into simple follicular, cobblestone and giant granuloma.

The simple follicular type does not have any typical identifying characteristics: an intense hyperemia of bulbar and palpebral conjunctiva is present and if there is any discharge, it is scanty. Itching is the most marked symptom and is variable. This type usually precedes the cobblestone type, but may remain the same from one season to another.

The cobblestone type, or pavement epithelium type is the one that the text books describe as the characteristic finding of the disease. This is an advanced stage of the disease and is not found until after two or more seasonal attacks of the simple follicular type. It is in this type that the typical milky films occurs, which is considered to be due to hyaline degeneration below the conjunctival epithelium. The follicles on tarsal conjunctiva are hard and are caused by an hypertrophy of lymphoid tissue and an over growth of sub-conjunctival connective tissue. Pressure from contact fuses them into conglomerate masses or single large granulomas. Various numbers of these flattened follicles may be found on upper lid. Associated with this condition is injection of bulbar conjunctiva and prominent vessel loops at limbus, that may give the false impression of an associated limbic type.

The continued overgrowth of sub-conjunctival connective tissue eventually causes deep fissures between the plateau like follicles, which would furnish favorable lodging for various bacteria and may develop a secondary bacterial allergy.

In no ocular disease is the discharge so characteristic as in this advanced lid type, it is a thick, tenacious, ropy discharge that may be completely peeled off with no bleeding from underlying surface. This discharge is more pronounced on upper lid. The itching is intense.

Giant Granuloma Type, is an exaggerated form of the cobblestone variety. The follicles are large, tough, spongy cushions with grayish red surfaces, the borders are bright red with deep fissures, resembling the fissured tongue of glossitis.

The itching and discharge are not so marked.

There may be corneal involvement with impairment of vision.

Differential diagnosis. Vernal conjunctivitis has frequently been confused with trachoma, because of the chronic nature of the two diseases and the similarity of the follicles. However, failure to make proper diagnosis will be less frequent if we consider certain cardinal symptoms of the two diseases.

History: Vernal conjunctivitis is seasonal and most frequently affects young. Trachoma present at all times with acute exacerbations without regard to seasons.

The chief symptom of vernal conjunctivitis is itching. In trachoma no itching is present.

In vernal conjunctivitis the discharge shows eosinophils, not present in trachoma. Appearance of follicles in vernal conjunctivitis is opaque or milky with characteristic tenacious discharge. Follicles in trachoma are of a deeper red and there is no tenacious discharge.

In vernal conjunctivitis the cornea is clear. Trachoma shows corneal vessels and pannus.

Treatment: No treatment has prevented the seasonal return of the disease. Cases seem to desensitize themselves in several seasons. All treatment is directed to alleviation of the annoying symptoms, the chief of which is itching. In Lehrfelds series of eighty-seven cases treated at Wills Hospital, Philadelphia, he found that this distressing symptom was relieved in a large measure by removal of the ropy discharge and with the idea of preventing its formation, he prescribed irrigations with cold boric acid solution seven times daily. Not that he felt that boric acid solution was specific, but because the exciting agents were water soluble, he felt that any watery lotion used sufficiently often would free the eyes of at least a part of the exciting agents, thereby preventing in a measure the formation of this discharge. In an article in Journal American Medical Association, March 18, 1933, he advocates the use of sodium carbonate monohydrated in 1 per cent to 2 per cent solution in conjunction with seven daily irrigations of boric acid, three drops, four times daily. In a series of twenty-seven cases he found that this caused a disappearance of the discharge, rapid and complete relief from itching and recession of the pathological condition.

I used this in one case seen with Dr. Armand Cohen and was very much gratified with prompt relief of the itching.

In a recent communication from Dr. Lehrfeld he states that he has had very gratifying results from this treatment and that patients treated early will not progress to the chronic stage. Patients who have developed the

granulomatous lids before seeking relief, should in addition to above, have pollen immunization during the winter months.

Radium was thought at one time to be a specific, but more experience has proven this to be in error. Radium is valuable in alleviating the itching in all types and seems to exert a beneficial effect in the acute and sub-acute stages of the disease, it also reduces the pathological changes in the advanced chronic cases. Most of these cases show seasonal recurrences of symptoms. a small percentage of which are relieved by subsequent radium treatments.

The beneficial results of radium is not understood. but is thought to be due to the profound leukocytic infiltration resulting from radiation.

While it has been found that the eye is extremely tolerant to radium, we should remember that very large doses may cause permanent alopecia of the lids. blepharitis. severe conjunctivitis. keratitis and cataract.

Patients sensitive to proteins. have been found deficient in calcium. the administration of which was followed by relief of symptoms due to decreased permeability of the blood vessels. Calcium glucoute in large doses has seemed to give some relief from the distressing itching.

Summary

1. Vernal conjunctivitis is most likely on ocular manifestation of an allergy.
2. There are two distinct types.
3. Frequent irrigations with boric acid solution followed by sodium carbonate monohydrated. seems to give some reief.
4. The allergist and ophthalmologist should cooperate in treating this disease.

DISCUSSION

H. L. Leavell: Dr. Cohen has certainly resurrected all the known methods of treating these allergic conditions in the past. One treatment that seems to be coming into favor in such an important way as to suggest the possibility that it will eventually cover the whole field of allergy is the ionization method. The follow-up of cases treated by this method has not been sufficient to enable us to determine the part it is going to play in the treatment of these conditions, but it certainly appears to have great potentialities.

I happen to have made a pollen calendar similar to the one Dr. Cohen has shown here tonight and I have found it very helpful in treating these patients.

I would like to ask Dr. Cohen if he has had any cases treated by the hyposensitization method to develop urticaria?

Adolph O. Pfingst: I have been very much interested in the papers presented. We are fortunate in that the program committee selected these two closely allied subjects for our discussion. The etiology of vernal catarrh has ever been a fertile field for study and even now much doubt remains whether the peculiar affection of the eye is purely a local disease or whether it is a local expression of some constitutional phenomenon based on endocrine reaction or an allergic process. There is a tendency today to accept the latter view. At present the allergy theory of spring catarrh is most popular, not so much the contact type but that based upon articles of diet such as eggs, milk, chocolate and certain cereals, however no definite conclusion has been reached. The great difficulty in determining the definite cause is the multiplicity of possible offending agents, the probability of the sensibility of the individual to more than one substance and the variability of the reaction from time to time depending on the general condition of the patient.

The pallor of the conjunctiva in vernal catarrh would suggest local vasomotor disturbance and as the vasomotor system is so closely related to the endocrine products, both may be considered as factors in the ocular manifestation.

The photo sensibility theory has also had many supporters, however Luedde of St. Louis, seems to have demonstrated that light is not a factor in the disease. As evidence of his view he pointed out the infrequency of the disease in Norway and Alaska during the period of twenty-four hours sunshine and during long seasons of snow. He is inclined that heat and dryness of the atmosphere may be contributary etiological factors.

Vernal catarrh is not always easy of diagnosis as the cases do not all run a typical clinical course and do not always manifest typical loral changes. Apropos to this I have seen cases that manifested symptoms throughout the year instead of subsiding in cold weather, and I have seen cases that did not present either the raised margin of the cornea of the pale cobblestone pavement appearance of the palpebral conjunctiva. The demonstration of eosinophiles in the conjunctival secretion has been of some value, in differentiating between this disease and trachoma, for which it has often been mistaken. Gonzales found eosinophilia in over sixty per cent of cases of vernal catarrh along with a relative lymphocytosis.

Ophthalmologists have all been confronted with the problem of relieving these cases of their intolerable itching and of offering hope for cure. Let me say in the first place that many of the therapeutic agents employed in trachoma such as copper sulphate, alumen, nitrate of silver and bichlorid of mercury tend to exaggerate the symptoms when employed in vernal catarrh. In my time I have tried practically every new treatment for spring catarrh as was

introduced. I recall so well that fibrolysin was very popular during the World War and that it was obtainable only in Germany. At the time one of my patients had some brought over by an officer returning from the front. I have used pilocarpine and adrenalin injections and lactic acid, all with different success. In Egypt where the disease prevails throughout the year autohemo-therapy has been employed, apparently with some good results. The development of radium as a therapeutic and palliative measure has met with more success than any of the other agents. I employed it, or rather had it applied, for the first time in 1922 in the palpebral type of case on a well known gentleman of our city, then a young boy, who was rapidly relieved and now has normal eyelids. It has been a valuable aid in most of my cases but the treatment cannot be put down as unfailing in its results. In the early cases in which radium was used the treatment was considered dangerous, especially because of the possibility of creating lens opacities, but has become more safe by the introduction of lead plates and other means of protecting the eyes. I have had radium employed in the limbus type of cases.

Armand E. Cohen, (in closing): In regards to Dr. Leavell's question concerning the treatment by electrical ionization; this is by no means a new procedure. As early as 1917 an article by L. Kesteven, appeared in the British Medical Journal entitled "Notes on Ionic Medication and The Methods of Administration." From time to time since then, articles have appeared in the literature.

Dr. Harold Warwick, of Fort Worth, Texas has been largely responsible for the revival of this therapy. The electrolytic solution has been modified, some using cadmium and tin combined with zinc instead of the calcium solution. Dr. Warwick, has been most enthusiastic claiming 209 cures and 16 failures in the 225 cases reported in The Texas State Journal of Medicine, July, 1934. Dr. Warwick claims results in hives and food allergies as well as in asthma and hay fever.

Dr. Burton Haseltine, in the August, 1934 "Eye, Ear, Nose and Throat Monthly" sounds a more conservative note. He states, "For the treatment of nasal irritations arising from intrinic causes it has probably no value since it is not a treament for the basic systemic distur bance underlying the hay-fever asthma syndrome. Therefore, to recommend it as a treatment for "Allergy" or to imply that it can modify the underlying constitutional state is, I think, misleading."

The apparatus used is quite simple and inexpensive, but until such time as more convincing proof is offered regarding its efficiency a conservative attitude might be saving of both disappointment and money.

Dr. Leavell's report of a case developing dermatitis following injection of ragweed extract is extremely interesting showing that if the skin is the shock organ, regardless of how the allergen is introduced—whether by contact, inhalation or injection—the skin will show the allergic response. I believe this type of dermatitis may be distinguished from the ordinary hives seen occasionally from overdoses of pollen extract which clears up quickly after the administration of adrenalin.

A. E. Leggett, (in closing): Dr. Pfingst pointed out the fact that it was at one time believed that vernal conjunctivitis was due to light, and these patients were given dark glasses without results. Again, it was believed to be due to air and the eyes were protected by shields, and still the condition persisted. Dr. Pfingst is right when he says we do not know what causes this condition. We see cases of vernal conjunctivitis which improve upon any change of climate and then recur upon the patient's return to his normal habitat. In many cases a rainy or cool spell will reduce the symptoms.

I agree with Dr. Pfingst that we should first try the simple remedies. Frequent irrigation with sodium carbonate monohydrated is often beneficial. Dr. Lehrfeld is very enthusiastic about this treatment. He says it not only prevents the diesase from developing into the chronic type but reduces the pathological condition and relieves the symptoms.

Filtration methods have been perfected to such an extent that I believe, in the hands of a competent man, radium can be applied with very little danger of injury to the eye. Curettage was formerly recommended but I think this method is now considered obsolete. Fox of Philadelphia was an enthusiastic supporter of such methods and claimed that in ten cases where the disease had existed for five years or more, following curettage it did not recur. Undoubtedly, many cases tend to recur following the use of radium and it is a peculiar thing that of those cases which do recur, only about one-third are subsequently relieved by radium.

Demonstration of Syphilis During Pregnancy.—A comparison of the results of the Wassermann reaction with those of the Kiss and Kahn reactions revealed to Kolbe and Szekacs that the two latter reactions are well suited for the examination of pregnant and puerperal women. The tests permit the detection of a latent syphilis more frequently than does the Wassermann reaction. In regard to the specificity they are somewhat inferior to the Wassermann reaction, but as far as sensitivity is concerned they surpass the Wassermann reaction greatly.

A DISCUSSION OF THE TEMPLE TREATMENT OF ECLAMPSIA*

OSCAR ALLEN, M. D., McHenry

In the July number of the medical clinics of North America Dr. J. O. Arnold of Temple University School of Medicine gives a resume of the treatment used there for Eclampsia for the past four and one half year. Their explanation as to the cause and the treatment outlined, in the light of my own experience seems to me very plausible.

In the first place no one has ever been able to determine the exact cause of this condition. The prevailing opinion has been in the past that there is a specific toxin in the blood of a pregnant woman which produces the convulsions and we have tried to neutralize, dilute, or wash out this supposed poison with excessive quantities of water. This theory is gradually being abandoned and we are considering more the normal physiochemical and endocrine processes of the female organism, and thus we are in a position to recognize, counteract, or prevent the effects of disturbances in these normal processes that are apt to take place in pregnancy, and thus be able, rationally, to prevent or control eclampsia. Their view is that the syndrome of eclampsia, all that we have hitherto included under the general term "toxemia" is but the result of a perversion or overdoing of what would otherwise have been normal protective processes in preparation for the approaching function of parturition. In other words, what takes place in normal pregnancy, may for one reason or another or for various reasons, go beyond the physiologic limit and result in one or more manifestations of so called "puerperal toxemia". Support of this viewpoint may be found in these well known facts:

1. The physiologically diminishing "urine output" and the gradually increasing water retention in the perfectly normal pregnant woman as she approaches term.

2. The normally hypertrophied hyperfunctioning pituitary body now known to result from and accompany advancing pregnancy.

That there is a relationship of cause and effect in these two phenomena, would seem to admit of little doubt. It would also seem logical and rational to draw this further conclusion: when for any reason (such as some endocrine imbalance) the pituitary function is perverted or uncontrolled or when for any other reason (such as an acute impairment of the normal water eliminating functions of the body) there is a too rapid decrease in the volume of fluid output or the patient indulges in a too rapid increase in the volume of fluid intake, then there is established a water imbalance followed often by those symptoms in varying degrees of severity, which we call preeclampsia and which if unrecognized or uncontrolled may ultimately, if not quickly culminate in such disturbances of cerebral function as to cause death. Summarizing them, they of the Temple clinic look upon the syndrome of eclampsia with all its forerunning and final manifestations. Its headache, vomiting, hypertension, eye symptoms, stupor, convulsions, coma, respiratory failure and death as cerebral phenomena the result of cerebral dysfunction, which cerebral dysfunction is undoubtedly of water retention and brain pressure origin, and subject to prevention and control by the well known methods of fluid balance and cerebral dehydration-methods which are certainly more rational, than those that have hitherto prevailed, and from their experience in the past four and one half years far more satisfactory and life saving in their application and results. They group their patients as follows:

1. The inherently normal.
2. The potentially abnormal
3. The moderately preeclamptic
4. The dangerously preeclamptic
5. The eclamptic or convulsive group

1. The inherently normal are those who were in normal organic health when they became pregnant. Nothing discoverable now and nothing in the history, predisposing to pregnancy complications. Probably not more than 50% of all pregnant women can be placed in this group. These may be given the usual or standard prenatal care throughout pregnancy, or until there is some detectable departure from normal, in the direction of the so-called toxic danger, such as too rapid weight gain, increasing hypertension, urinary pathology, etc. As the later months of pregnancy approach, any of this group may develop (innocently or upon erroneous advice) a dangerous degree of water imbalance (even to the extent of convulsions), but all may be expected to go through normally when properly instructed and supervised.

II. The potentially abnormal group includes those who are known to have been organically abnormal or questionable before the present pregnancy. Those who have a history of definite or probable kidney impairing disease, or previous pregnancy complications possibly involving the kidneys, as well as all in whom there can now be found any evidence of latent organic disease, especially of the kidneys. Patients of this group are tactfully told that pregnancy involves greater dangers, because of what the history and examin-

*Read before the Grayson County Medical Society.

ation reveals but that there are very definite and effective measures for preventing these dangers, which are somewhat more exacting than usual prenatal care, but which are in no way prejudicial to the best interests of mother and child.

These patients are placed on a carefully explained fluid balance regimen, at the earliest knowledge of pregnancy, though they may be in the best of health at the time. It is explained to them that an intake and output of 30 or 40 ounces of fluid is ample for normal health, and that a much lower balance may be maintained for months, with no detriment to health and safety.

They are taught to eat five small meals a day with no food or drink except at these three hour intervals, and are allowed a good well-balanced, nutritious diet, with no special restrictions, except as to salt and sweets—these to be kept low. They are taught to keep a record of their total twenty-four hour fluid intake and urine output. Thus, with but little inconvenience, and with no real hardship, patients of this group (many of whom have failed of successful issue in the past), are now carried safely over the places of danger that might otherwise have been their serious undoing.

III. The moderately preeclamptic are those who have, to a moderate degree, undoubted indications of approaching danger. Many of these may not yet manifest noticeable subjective symptoms, but all have in varying degrees of advancement, one or more of the well known signs of preeclampsia.

The treatment outlined for this group is as follows:

1. Note the present weight and blood pressure, and if possible what these were at the beginning of pregnancy.
2. Withhold all fluids (or in very mild cases, restrict to a definite minimum), until the twenty four hour urine output is known.
3. Chart accurately the intake of fluids and urine output, daily, or at one, two or three day intervals, as the case warrants.
4. Dehydrate more or less moderately (according to excess weight and edema), with a few daily, or every other day, courses of magnesium sulphate, 1 or 2 ounces, saturate solution, every one or two hours until effective in watery stools.
5. Allow small meals, at three hour intervals, with no food or drink at any other time. Very important, and very helpful in control of thirst and intake.
6. Total food for the day should include a widely varied, balanced diet (Not excluding proteids), but low in salt and sugar.
7. When sufficient dehydration (weight and blood pressure reduction) has been noted help the patient to maintain a balance of fluid, and control of weight, throughout the remainder of her pregnancy.

IV. The dangerously preeclamptic, those who at the time of coming under observation have already advanced to a condition of serious danger to mother and child, and in whom the fear of early convulsive seizures, is undoubtedly warranted.

Treatment in this group follows the same general principles outlined for group III, to which should be added the following more immediately effective measures:

1. If very urgent (substernal pain, severe headache, blindness, etc.) do immediate spinal drainage, 40 to 60 cc. or if this is actually impracticable, venesection 20 to 30 ounces, to temporarily relieve the intracranial pressure, while instituting measures for more extensive and continued dehydration.
2. If less urgent, or after spinal drainage, prepare for tissue dehydration, by giving intravenously hypertonic solutions—50 cc of 50% glucose at four to six hour intervals, alternating two or three times with twenty cc of 10% magnesium sulphate in the intervals between glucose injections.
3. Begin magnesium sulphate purging at the earliest moment practicable, so that the bowels may help the kidneys and skin to unload the water that the hypertonic solutions have been instrumental in removing from the brain and other tissues.
4. If no marked improvement is seen in twelve to twenty-four hours, repeat the spinal drainage, or repeat in four to six hours, if symptoms remain urgent, and continue to withhold all fluids for a longer period, or until the total water output from bowels and kidneys and weight reduction, show an effective degree of dehydration.
5. After twenty four hours, most of the patients of this group may be allowed food (relatively dry diet), and limited fluids (as indicated by water output) at three hour intervals— when they begin to ask for it. Some, however, may require the withholding of food or drink or both, for as long as thirty-six to forty-eight hours, according to degree of dehydration obtained.
6. The immediate danger having been thus abated, as seen in the general relief of symptoms (but not always of hypertension), edema and weight reduction, the pregnancy may be expected to continue to term with relative safety, provided the patient remains under strict food and fluid control.

V. The convulsive group are, of course the cases usually classed as "eclampsia". It will be borne in mind, however, that this

whole distinctive syndrome, as here contemplated, is from first to last eclampsia, the convulsions being only the culmination of a more or less rapidly developing fluid imbalance, and might be considered the "spectrum of eclampsia". In this group, then, are the cases antepartum or post partum, that have reached the stage of their eclampsia where one or more convulsive seizures have actually occurred, or in a few instances where all the phenomena of impending eclamptic death are present without convulsions.

The essential principles and steps in the treatment as given will apply to the general run of cases, but of course it will be necessary to individualize each case and vary the application of these methods to suit the conditions and status of the case.

1. Do spinal drainage as early as possible, withdrawing 40 to 80cc as the pressure or flow seem to indicate. Repeated drainages three to six hour intervals, of these moderate quantities, has proven preferable to larger amounts at longer intervals.

2. If absolutely necessary to facilitate this first drainage, or the giving of the first intravenous solutions, one dose of morphine ¼ or ½ grain, may be given, but not if it can be avoided for early consciousness and mental clearing are so helpful in the further treatment, that drug sedation is to be avoided if possible.

3. Hypertonic solutions intravenously are to be started at once—50 cc of 50% glucose at four or six hour intervals, alternating for a few doses only, with 20cc of 10 per cent magnesium sulphate between glucose injections. Since the purpose of these solutions is purely to dehydrate the tissues into the blood stream, they are not to be continued indefinitely, or for more than a few hours, unless avenues for the escape of the blood borne water, have been amply provided (bowels, skin, kidneys).

4. Magnesium sulphate purgation, therefore, should be started at the earliest opportunity. Saturate solution in divided doses may usually be given by mouth, but it is sometimes necessary to give it by stomach tube or by rectum.

5. Keep the skin warm, favor perspiration by gentle heat, and rarely resort to more extensive sweating procedures.

6. Venesection may sometimes be advisable, or even necessary, though we have seldom found it so. Do not forget, however, that venesection, the same as spinal drainage, is but a temporary expediency, while waiting to accomplish the more effective and lasting systematic dehydration upon which the patient's ultimate recovery will depend.

7. The number of spinal drainages necessary in any given case will depend primarily upon:

(a.) Their effectiveness in stopping the convulsions, one or two will usually do this.

(b) Their promptness in restoring consciousness, early mental clearing, and the general quieting of the patient; and will depend secondarily upon: the promptness and effectiveness with which the other, or general dehydration measures have been carried out.

8. Continuation of hypertonic solutions intravenously will likewise depend upon the degree of success in general dehydration as shown in the output of water from bowels and kidneys, and the consequent reduction of weight, and edema. As soon as watery stools have been produced, the hypertonic solutions may be repeated and continued until there is a satisfactory increase in the total fluid output, and especially of the output of urine. It is often surprising how rapidly the kidneys resume their normal function, and without any specific drug therapy, when the bowels and skin are thus made to temporarily ease the abnormal kidney burden.

9. The question as to emptying the uterus, we have found to be entirely secondary to that of cerebral dehydration, with control of convulsions, and the reestablishment of a fluid balance. The slogan should be "relieve the patient's head rather than her uterus."

10. Recovery from eclampsia with pregnancy undisturbed, confers no element of safety, and leaves the patient susceptible to the same faulty water metabolism, and to the same consequent conditions and convulsions as before. Therefore, it is absolutely necessary to maintain a strict fluid balance, and rigid control of the patient, as long as pregnancy continues. Food and drink, at three hour intervals only, may be gradually increased as improvement warrants, but must at no time be left uncharted or indefinite.

In conclusion, I would say that any practical measures calculated to reduce intracranial pressure and improve the cerebral circulation, will enhance the value of the fundamental principles of treatment as above outlined and applied in the prevention and control of eclampsia.

THE MENACE OF THE HUMAN DEFECTIVE*

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Racial degeneration is sweeping over society in general, and the United States in particular, and unless its progress is stopped our civilization is doomed. Other civilizations, relatively as high in comparison with then existing standards as ours is now, have flourished and declined, and if we fail to curb this menace our civilization will perish like that of Babylon, Persia, Egypt, Greece Rome, the Incas and others. The general public, as well as the majority of the profession, seem to be very largely, in not entirely, unconscious of the danger of racial degeneration, but in reality the danger is so great and the need of efficient suppressive measures so imperative, that the subject demands most careful consideration, and the putting into effect at the earliest possible moment of efficient correctional measures cannot be too strongly stressed.

Through uninterrupted Nature's law (the survival of the fittest) weaklings and defectives are gradually eliminated and prevented from constituting a menacing proportion of population, but society's present attitude, however commendable from a humanitarian point of view, is by its sympathy and charity nursing our weaklings to maturity in spite of the fact that they will be more or less a burden to society the remainder of their lives. Not only that, but they will, through their constantly increasing numbers of offspring, constitute a rapidly increasing menace to our social order. The result of Nature's survival of the fittest is that breeding is principally at the top, but today we are breeding from both top and bottom, with the latter predominating. The top is limiting its offspring to a point which means the practical extinction of a family within a few generations, while the far outnumbering offspring from the bottom is increasing so rapidly that race degeneration is rapidly assuming alarming proportions. This brief resume will show the startling magnitude of the danger, and for convenience the subject will be considered under the following headings: (a) The Insane; (b) The Feebleminded and Epileptics; (c) The Criminal.

(a) In 1880 we had 32,000 people in insane asylums, 64 for each 100,000 of population. In 1929 there were 272,500 or 226 for each 100,000 of population, an increase of 840 per cent in a little less than 50 years. Let it be noted that these figures apply only to those actually committed to institutions—although it is well recognized by the informed that there are half as many more at large who might well be confined. The general public has this fact dramatically and frequently brought to its attention by the insane paroled from asylums—not only institutions of the ordinary type but those for the confinement of the "criminal insane." However, we are so hardened to the sensational that the significance of such cases is unrecognized. It is the opinion of those best informed that there are fully as many at large with diseased minds but not sufficiently to demand confinement in institutions, as there already are in institutions. All such people have a necessarily decreased earning capacity, and proportionately are a burden to society in general, and their families in particular—a burden which is not only financial but, in addition, is generally humiliating and handicapping. In all probability there is a somewhat larger proportion of the insane in institutions today than was the case fifty years ago, but after making due allowance for this it is evident that there has been an alarming increase in insanity in the last half century. The cost of insane persons in institutions includes: (1) the amount invested in the construction costs; (2) the loss of earnings of such "frozen" capital; (3) the cost of institutional maintenance; (4) the division from the economic life of the country of the potential earnings of the personnel of the institutions; and (5) the loss to the economic world of the potential earnings (if the individuals were normal) of those confined for the good of society. Similarly there is the economic loss due to partial, or even total, dependency, and the necessarily associated decreased earning capacity, resulting in families carrying the burden of unconfined mental defectives. Most of this latter named burden must be surmised, for statistics on the subject are neither available nor complete. The following summary of the known annual cost of the maintenance of the insane who have been committed to institutions will be a surprise to many, the figures being for 1929; maintenance of institutions $95,200,000; potential earnings of the 42,000 employes at $1,500 each sixty three million; potential earnings of such is not available). stitutions $408,750,000 (the amount of the "frozen" capital in the institutions, and the potential earnings of such is not available) Adding these figures we have a total annual direct economic cost of the insane in public institutions of $471,750,000.

(b) In 1929 there were 63,300 feeble-

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minded and epileptics in our public institutions, the direct cost to society for which was: maintenance $28,900,000; potential earnings of inmates if they were normal $68,300,000; potential earnings of the personnel $16,200,000; (again the amount of the "frozen" capital and the normal earnings of the same are not ascertainable) making the direct annual economic loss due to these defectives $114,300,000.

(c) A computation of the annual cost of the depredations of the criminal is impossible due to complexity of the various factors and the unavailability of accurate statistics, but the following estimates of such annual costs, quoted from "The Problem of Crime" by Prof. C. J. Ettinger, are as nearly accurate as possible: (1) losses through fraudulent securities, forgeries, worthless checks, embezzlements, fraudulent bankruptcies, etc. $1,270,000,000; property losses through burglary, robbery, etc., including the economic value of the 12,500 annually murdered $1,160,000,000; cost of law enforcement $4,000,000,000; waste of crime not included in the above; 2,000,000 crimes at an average estimated cost of $1,500 each; 500,000 police at an average cost of $1,500 each: commercialized vice; liquor traffic, economic value of 125,000 victims of the liquor traffic, $6,503,000,000. There should be added to the foregoing $686,400,000 for the potential earnings of prison inmates, if they were gainfully employed, and $107,800,000 potential earnings of the prison personnel. This makes a total of $13,727,000,000 we are paying each year for the support of professional criminality.

Besides this, there is the vast amount of unascertainable cost indirectly due to criminality such as financial handicap to relatives and associates of criminals, debased living conditions in which they prosper—reacting upon the entire neighborhood, the necessarily public health menace of such surroundings to occupants as well as neighbors, the financial loss due to depreciated real estate values, and the heartaches and unrealized ambitions in all strata of crime, and suffered by the innocent as well as the guilty. Another major economic problem, a large portion of which is due to racial degeneracy, deservedly receiving an increasing amount of attention, is that of drug addiction. The number of such addicts in this country is estimated at from 100,000 to 150,000, and 80 per cent of them are from the "underworld." The economic loss due to this class cannot be ascertained with any degree of accuracy, but it certainly runs annually into the millions.

The above cited annual cost to society of our human defectives, $14,313,050,000 is what we are paying for the support of our biologic unfit, and the tragedy of it is that it is practically all scientifically preventable. In other words we are paying fourteen and a half billion dollars a year for our failure to attack the problem from a rational and scientific point of view. (The annual maintenance cost of our physical defectives is not known, and cannot even be surmised. Although it must be considerable, it would not add much, relatively, to the above stated amount). And if this is what we are paying now what are the prospects for the future?

Insanity has increased more than 800 per cent in the last 50 years, is still increasing, and if the rate continues for another 75 years one-half of our population will be in insane asylums. Unthinkable, do you say? Yes, but inevitable unless we adopt efficient measures to prevent it. The Human Betterment Foundation of Pasedena states there are now 18,000,000 persons in this country who are at the present, or some time in the future will be, affected with mental disease or defect which, either wholly or in part, will make them a charge upon the remainder of society. Criminality has increased more than 450 per cent in the last 50 years while our population has increased but 170 per cent. Degenerates, as a rule, have large families, and a recent survey of the question in England reveals an average of 7.3 children in degenerate families, while the average for the country as a whole is only 4. Mr. Lloyd-George very truly said: "You cannot make an A-1 nation out of a C-3 population." and we are demonstrating rapidly that an A-1 nation can degenerate because of the large increase of its C-3 population. Last year 12,358 men applied for enlistment in the United States Army, of which 1,050 (8.5 per cent) were rejected for failure to pass normal intelligence (not educational) tests, while 6,314 (51 per cent) were rejected for other reasons—sixty per cent of supposedly mentally and physically normal men in the second and third decades of life, when physical and mental vigor should be at its highest, were unfit for military service because of mental, physical and moral deficiency: Probably all these men at the time of application thought themselves fit for service. What do the Draft Board records of the World War show? Of the drafted men 11 per cent were rejected for having disabling mental or nervous conditions, and 30 per cent of all men examined were rejected as having disabling mental or physical defects. During the Civil War 26 per cent of drafted men were rejected for physical unfitness, as compared with

29 per cent during the World War. What an indictment against an "A-1" country, and does it not show that our "C-3" element is dangerously large and rapidly increasing? A striking example of the tremendously increasing costs of degeneracy is afforded by the "Juke" family. Of the 1,200 descendants of one degenerate couple traced through 75 years, 310 were professional paupers who spent, in all, 2,300 years in almshouses, 50 were prostitutes, 7 were murderers, 60 habitual thieves, and 130 common criminals. The estimated cost (up to the time of the investigation) of this foul tribe in loss of gainful occupation, cost of prosecution and maintenance in institutions was $1,300,000, and the cost is not only continuing but it increases in geometrical proportion. This family by no means is an isolated one. It is frequently cited merely for the reason that the working out of the records of such a family is an expensive procedure and therefore has not been done very often. All communities have their "Juke" families. Professor Poellman of the University of Bonn, Germany, investigated the descendants of a female drunkard with practically the same striking results. Of the 834 offspring in five or six generations of her descendants, 709 were fully traced. Of these 107 were illegitimate, 162 were professional beggars, 64 were inmates of almshouses, 181 were prostitutes, 76 were convicted of serious crimes, in addition to which 7 were convicted of murder. The cost to society of this group of degenerates was more than $1,200,000 up to the time of the investigation, and, as just stated, will continue at an increasing rate. Our Federal government in recent years only, has required all immigrants to conform, among other requirements, to definite mental, physical and moral standards and thereby admits the undesirability of such defectives, but notwithstanding this, it makes no intelligent effort to prevent the production of such undesirables in our midst.

The positive role which heredity plays in the biologic defective is strikingly illustrated in the well known Kallikak family. The founder had an illegitimate son by a feebleminded woman from which some 480 offspring were traced in five generations of which less than 10 per cent were normal, while the remaining 90 per cent consisted of all kinds of feeblemindedness, degeneracy and criminality. The same father subsequently married a normal woman from whom in six generations 496 offspring (only one of whom was not normal) consisted of tradesmen, teachers, ministers, lawyers, judges and a generally high quality of citizenship.

Formerly we had to accept the unproved assertions of sociologists that the vast majority of criminality was the result of poor ancestry. This is no longer true, for to deny the influence of heredity now is to deny a well established law. While an occasional "sport" is found in nature, fundamental biologic law is decidedly against the likelihood of a thoroughbred cropping out in a mongrel herd, or a mongrel appearing among thoroughbreds When such apparently does occur, it can be shown that an alien factor has been introduced into the line of succession. It does not necessarily follow that all degenerates become criminals, but practically all confirmed criminals develop from degenerates. A number of years ago Dr. G. Frank Lydston, of Chicago, said: "The criminal class is the product of certain influences of heredity, congenital and acquired diseases and unfavorable surroundings," and time has abundantly proven the truth of his statement. In closing his address before an Annual Congress of the National Prison Association this same eminent student of sociology said: "Criminals are the result of social disease. To the medical and sociological scientist alone can society look for light upon the crime question The mockery, cruelty, quackery, and dishonesty of our law will never better present conditions. Moral persuasion has failed. Give us a new regime of social and medical science as a basis for all moral efforts at reformation." Preventive or corrective measures are, and always will be ineffective unless they are based upon the recognition of the causative factors of degeneracy. In the past, as well as the present, society has been content to gently admonish, and insufficiently, irregularly and inadequately punish the criminal who is not responsible for his criminality. In other words, society makes degenerates, punishes them (theoretically, at least) for being degenerates, and permits them to produce more and more degenerates. Could anything be more stupid?

The vast majority of our rapidly increasing mental, physical and moral defectives are brought into the world with these potential and unalterable handicaps, but the actual development of the defective depends upon a variety of variable factors superposed upon a defective biologic inheritance. These, for convenience, may be grouped in the term "environment." This environment may include any or all of the following named factors in varying degrees: degrading influences, usually but not always, associated with poverty, such as insufficiency of proper food, poor hygienic conditions, bad associates, absence

of, or inadequate, moral training, limited intellectual horizon, poor hygienic training, etc., and, after childhood has passed, the continued and constant temptations to delinquency, stimulated by increased realization of privation. And, may the writer add, not the least of these damaging factors is the deplorable effect of "yellow journalism" which so conspicuously features crime, and, to the mind of the actual or potential criminal, glorifies it. While occasionally a useful citizen may emerge from such environment, it happens with such comparative rarity as only to add emphasis to the terrible odds which are encountered by the all too few who do surmount them. It is well known that a few decades ago the confirmed criminal was relatively more abundant in Europe than in this country, but inexcusable blindness in having inadequate exclusion laws governing the admission of aliens, until recent years, and the naturally rapid increase, both actual and relative, of our defectives has markedly reduced that disparity.

What, then, is the solution of the problem of reducing or eliminating our defectives who constitute such a staggering burden? The answer is Stop Producing Them! Theoretically, that sounds simple but in reality it is not so easy as it sounds. Summed up, it may be stated that the practical, the cheap, the certain and the quick method of eliminating degenerates is: (1) Obliterate our slums and other social pests and substitute for them conditions which promote the normal healthy development of the individual into a decent respectable citizen, and until this is done the statement in our Declaration of Independence that "all men are born free and equal" will remain a piece of sophistry. (2) Reform our criminal courts and procedures until they are not "a disgrace to civilization" as the late President Taft rightfully characterized them. As administered our laws and courts protect the criminal and not society, but the time has come when law abiding society, and not the criminal, should be protected. If some of our time honored and merely theoretical protections of individual rights must be ignored in order to protect society, why hesitate to do so? Certainly, the welfare of society as a whole is paramount to that of the individual. An excellent indication of the inadequacy of our criminal laws as a deterrent to crime is afforded by the fact that in 1928 and 1929 there were 29 murders committed in London, England, while in Chicago, during the same period, there 760. In London every one of the murders either was executed, or suicided, when it was realized that the crime was fastened upon him, while in Chicago only 11 were executed! Another recent example shows the absurdity to which our courts reason (?). A man obviously intoxicated was arrested charged with driving an automobile while intoxicated. The magistrate dismissed the case on the ground that a person cannot be made to testify against himself, and that appearing in court, plainly intoxicated, was testifying against himself! The daily press chronicles all classes of crime, from murder on down the scale with the statement that the accused has repeatedly been convicted and sentenced to be confined in reformatories or prisons, and that they had been pardoned or paroled before the sentence had been served. (3) Stop bringing into existence of the biologically unfit. The necessity for all three of these measures is certainly self-evident, but some further consideration of the last named one, which is the most important of the three, is appropriate. Society approves of the principle that it has the right to execute those who have committed certain crimes, and, theoretically at least, exercises the right. That being the case, it certainly has the same right in self defense to prevent the creation of those surely destined to be a menace, as well as a moral and financial burden. (In this connection the word "right" is used in a moral sense, and if the statement is not true in a legal sense, the law should be changed to make it true.) Prevention of the bringing into existence of the biologic unfit may be secured by vasectomy or salpingectomy which are certain and prompt in results and these procedures, of course, in no wise will interfere with the individual's normal physiological life and neither will they have any deleterious influence upon his mental or physical welfare. Indiana in 1907 was the first state to put a sterilization law on its statute books, this action being the practical result of the pioneer work of Dr. Harry S. Shart at Jeffersonville Reformatory, and California and other states soon followed. Early laws provided for sterilization as a punishment for certain crimes but the procedure was attacked in the courts which held it unconstitutional as being "cruel and unusual punishment." Later laws prescribed sterilization as a eugenic measure and the United States Supreme Court held them constitutional several years ago. Some objection has been made to the procedure on the ground that it might be used to the prejudice of the personal rights of individuals but this contention has not the slightest degree of validity, since sterilization could be surrounded by safeguards which would adequately protect the individual in the same or similar

manner that individuals are now protected from illegal punishment or being committed to asylums for lunacy. More than 150,000,000 people are now living under laws which provides for eugenic sterilization in 27 of our states, the Canadian providences of Alberta and British Columbia, Germany, Denmark, State of Vera Cruz, Mexico, the Canton of Vaud in Switzerland and the Free City of Danzig.

Legal eugenic sterilization has back of it over 35 years of successful operation in the United States and the only reason that it is not now carried out generally is that the public is generally uninformed on the subject and hence, there is wanting a public sentiment demanding the procedure. While the failure of the general public to be informed upon the subject is unfortunate, this cannot be blamed upon the medical profession as has been alleged a number of times. Society has the right to expect the profession to be active in leading such a campaign of education and we will fail in our moral obligations to mankind if we further fail to take an active part in the imperative campaign against racial degeneration.

DISCUSSION

M. Casper: It looks to me like it resolves itself down to this; (and I know we have all thought of this), who is to be the judge? There have been judges on the bench just as crazy as some patients. I recall we have had them in this state. Our doctors are not infallible against making mistakes, especially on important subjects like this. It looks to me like a better way to handle these cases is to segregate these people and prevent conception. For all of these criminals that escape, someone is at fault. It is because of the incompetency of the governors and wardens who have charge of these people. In a great many cases like the guard who let Dillinger get away. Sometimes individuals sentenced to the penitentiary have lived years, later to have it found out they did not commit the murder at all. That is the reason juries are a little skeptical about inflicting the death sentence on murderers because it is common knowledge that this mistake is made. Within the past two months someone on his death-bed confessed to a murder for which a man had served twenty years for that particular murder.

As Dr. Simpson brought out, it is like breeding cattle or pigs so they will grow fat, that is another problem. Livestock breeding is very simple, but you have a very complex thing to deal with in insanity. So many of them are not inherited. Many of the most common forms of diseases, paresis, for example, is not inherited; alcoholism is started sometimes by environment, the same is true of syphilis. They start out with bad environment and we cannot tell how much of it is environment, how much is accident of birth (delivery) or how much is inherited. When you think of it, it is a very deep question, with two sides to it and is worthy of deep thought before any action is taken in any way.

W. E. Gardner: I have looked forward to hearing Doctor Boggess present this paper but in his absence am glad to have heard Doctor Solomon. I am sure that all agree in principle with the content of the paper. It is a paper that is applicable to be read before the laity as well as before a scientific body. Very little technical discussion was undertaken. It is largely a question of statistics and facts which we must face, and yet, perhaps to the unsuspecting, it might be a little bit misleading. We would think we were going to the bow-wows very rapidly if we took these statistics too seriously. It would give the impression that there is a rapid increase in mental diseases and mental deficiency. I doubt if that is true.

Of course, there have been large increases in the number confined in public institutions in the last fifty years, and others who have been studied through various clinics and social agencies, but, so far as the increase of all cases of insanity and feeble-mindedness is concerned, I doubt if it is as rapid in proportion to population as the figures would indicate. There are so many factors that enter into the causes of these abnormalities that it would be impossible to discuss all of them now. However, it does look like something should be done about it, but there does not seem to have been a spontaneous demand on the part of the people to do very much. There are a few of the leaders in certain states and communities, usually among the laymen, who seem to take the initiative, but physicians seem to have hesitated to take the lead, and for this reason it is unusual to hear a paper of this sort presented at a medical society.

Strange to say the programs of the American Psychiatric Association and the American Association for the Study of Mental Deficiency very seldom have any paper on sterilization. Psychiatrists and others who handle mental cases most have never been entirely sold on the proposition. Certain states have passed laws which have been active; others not operative. I do not know what Indiana is now doing. I have not heard about it in the last few years. The law is perhaps on the books, but I doubt if it is being operated to any great extent. I have not visited the institutions for the feeble-minded at all; in fact, in none of my experiences have I come in very close contact with the care of the feeble-minded. My work has been in connection with other types of mental abnormality. Unfortunately too, a large percentage of the

criminal class are not mentally defective, so far as intelligence tests are concerned, but they lack a sense of honesty and decency and consideration for others which is characteristic of the pyschopathic personality, or constitutional psychopathic inferiority. And even if we could run so-called intelligence tests on people generally advising sterilization on this individual and that individual, we would overlook a great many with criminal tendencies who would have a high intelligence rating.

Of course the proper laws for sterilization and the whole idea of contraception for this type of cases, theoretically, are all good, but when it comes to practical administration of such laws it would in many instances do a great harm and injustice. It has been stated on good authority, for instance, that ninety per cent of all morons and other border line defectives are well behaved law abiding citizens. Certainly, they are not all vicious, immoral or otherwise antisocial, as many people believe.

As indicated in the paper, the good of society is above that of the individual and if, in well selected cases, feeble-minded and insane victims with criminal tendencies were subjected to sterilization, possibly society as a whole over a period of several generations might be benefitted. It is going to require at least a few centuries, however, before we see any marked change in the state of the race so far as getting away from degeneracy is concerned. It is such a big proposition and so few people have had a spontaneous interest in carrying the thing forward.

Not many people have been persuaded by lay individuals going about the country lecturing upon the subject, and it is significant that the American Psychiatric Association and the American Association for the Study of Mental Deficiency have not given more prominence to it on their programs. By the way, a graduate of this Medical School, Doctor Harvey M. Watkins, Class of '17, two years ago was President of the American Association for the Study of Mental Deficiency. Some few of you may remember him. I have heard him talk about sterilization at meetings of the American Psychiatric Association and his idea and that of others is that they are not entirely sold on the question of sterilization, except in most carefully selected cases.

In insanity and feeble-mindedness we have given heredity a prominent part. In addition to this there are important factors in the environment of individuals and precipitating circumstances that bring on insanity; and so far as feeble-mindedness is concerned, there are prenatal influences, birth injuries and diseases of early infancy which produce it. In other words, there is a large group of cases which would not be dependent on heredity at all.

The paper has been most interesting and we are indebted to Dr. Boggess for bringing us such a valuable contribution at this time. I regret that he is not here to give a personal reply to some of the questions which we have raised.

E. E. Elmore: There is undoubtedly a certain element of feebleмindedness that is self apparent and it is that element that those who advocate sterilization would direct their efforts toward. They are found within the recollection and observation of every physician who has been a practitioner for twenty years; he can follow innumerable cases that could have been prevented by sterilization. It should not be applied widespread, it should be applied with limitation and its results followed.

Thomas F. Duhigg: Faults are individual, and guilt must be made personal. Society is as good as the average of its units. Companies have been formed and concerns incorporated in order to escape responsibilities that should be personal. It is wrong to weave excuses for defectives and delinquents, by blaming their faults to poverty, unwholesome neighborhood influences, lack of opportunity, or some imaginary grievance against the state, the laws, or society in general. Individuals who succeed conspicuously claim the credit for themselves, and they as individuals receive the rewards Conversely, faults, failures, and guilt, as well as the lesser and appropriate punishment, must also go to the delinquent individual.

When a person is incurably insane, incurably idiotic, or hopelessly criminal, his identity is well established. Knowing these, we should start on a small scale of sterilization of those who are hopeless or incurable. Sterilization should be applied only to those individuals forming the dregs of human society; to those whose state is so unfortunate and so miserable, that the verdict against their right to reproduce would be unanimous. The question of sterilization of human beings should be kept out of the realm of controversy by applying it only to those at the very bottom, and by making it incidental or contingent to their classification as hopeless criminals, monstrosities, or mental incurables. It should become a routine procedure, the same as the bath and change of clothing, upon their certification in one of those unfortunate classes.

Between the normal and the abnormal there is always a twilight zone of cases that are debatable. Consideration of them would lead only to endless controversy. Therefore, I say to move the line to the left of this twilight zone. Place it so low that all below it are beyond controversy, so pitiable that no one would claim for them the right to perpetuate their misery in offspring.

Nothing would be more unprofitable, except to lawyers, than trying an individual on the

single issue to decide whether or not he should be sterilized. That would make diagnoses a court procedure. Lawyers could talk without end, on the useless question of just what hour of the day or night the patient ceased to be just a bad boy and had become a hopeless criminal. All that controversy and futile waste of time and money can be obviated by reserving sterilization for the very bottom layer of human society—that layer so low that to prevent another generation of misery, sterilization would be regarded as an act of mercy.

We pull weeds from our gardens, and in every way we undertake to limit within reasonable boundaries the growth and development of what is harmful. It is futile to argue against the right of society to protect itself from the criminals, particularly the supercriminals listed as public enemies, degenerate criminals and murderous crimninals, by undertaking to stop it at its source. If we have the right to take their lives, or deprive them of their liberty for any length of time up to the duration of their lives, certainly we have the right to sterilize, or even to unsex them. Applied to criminals, sterilization has a double benefit, 1st, it prevents their reproduction, if he knew that when he reached an extreme grade of degeneracy, sterilization awaited him; not only sterilization but castration.

Is there anything so inconceivably useless as to have Machine Gun Kelly confined in a prison where they will have to care for him and feed him for the rest of his life, and guard him day and night, always with the possibility of his escape? It is unfortunate that in this country we will not execute enough of them. There are states where the furthest they will go is life imprisonment. The poor dumb people and the juries have not the heart and the decency, and enough of the love of society to protect it by applying capital punishment to its enemies. They say "If you ask us to hang him we will turn him loose. But we will give him life imprisonment." Then a governor may reduce the sentence to twenty years, and the next governor reduce it to where he becomes eligible, and is paroled. A large part of crime in this country is committed by criminals erroneously paroled.

Why are there so few homicides in England? Because punishment—capital punishment—is sure and swift. Courts and lawyers in England protect society and not the criminal. For years and years in London the homicides annually have not exceeded 25. Those apprehended and punished approach 100 per cent. They are declared insane, they commit suicide, or they are executed.

Sterilization of mental incurables is a kindness, an act of grace and mercy. Applied to the criminal it not only prevents degenerates from reproducing themselves, but it is a powerful deterrent to crime. Sterilization should not be used as a punishment. It should be contingent on a certain degree of depravity when applied to criminals, and in mental cases when incurable. It may take hundreds of years to establish it on a just basis, but it will come, let a start be made. Degeneracy, insanity, and crime should be attacked at the source. To all the other agencies intended to reduce this costly burden on society, science should add the sane and conservative use of sterilization.

SELECTION OF PEPTIC ULCERS FOR SURGICAL TREATMENT*

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Within the past decade among the important advances made in the treatment of peptic ulcers has been a recognition of the principle of individualization of cases, whether the therapeutic agent applied be medical or surgical in character.

The surgical treatment of that group of peptic ulcers which has remained intractable under medical management or has developed some complex complication has been forwarded considerably by the understanding that a careful selection of types of cases for operation is as essential in gastric surgery as elsewhere. The factors which have emphasized this attitude have resulted from the study of end-results in favorably and unfavorably treated series of cases and the evolution of individual methods whether medical or surgical.

With the increasing accuracy of the roentgenologic recognition during the past two decades, a large group of cases which were formerly treated as probable ulcers has been eliminated and the increasing reluctance of individuals to be operated upon in the absence of complications has narrowed down the selection of peptic ulcers available for study to those of undoubted diagnosis. Consequently, there are many series of ulcers diagnosed by x-ray and proven at operation which permit of certain groupings from which accurate conclusions may be drawn.

The difference in incidence of gastric and duodenal ulcers is considerable and likewise there is some difference in the indications for the treatment of the two types of lesions. Approximately three-fourths of peptic ulcers lie on the duodenal side of the pyloric sphincter. In some reports, as for instance in Lahey's series of 771 cases of peptic ulcers, 85 per cent were duodenal as against only ten per cent gastric, and the remainder, postoperative

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or gastrojejunal variety.

McVictor, in 1926, made the statement that in 100 patients with complaints sufficient to warrant x-rays of the stomach and duodenum, organic lesions were found in 27. In this series duodenal ulcers were ten times as frequent as gastric lesions. These statistics are quite similar to those of other observers and vary but little when the number of cases in the series is multiplied many times. Practically speaking, one out of four peptic ulcers, without taking into consideration the gastric-jejunal, will occur on the gastric side. It might also be said in seeking the indications for surgical intervention in peptic ulcers that only the complicated cases should be turned over to the surgeon, and among complications I mean the question of early or questionable malignancy when the ulcer is on the gastric side.

In the duodenal ulcers one finds first, the perforating variety; second, the obstructing variety; third, the bleeding group, and; fourth, the group which is intractable to treatment and which results in incapacitation, as the four main divisions which are generally relinquished to surgical treatment. In addition to all these indications, the gastric ulcers present the additional threat of a co-existing cancer.

As to the perforating type of peptic ulcer, there is no question that immediate intervention is indicated, and urgently. The recognition of the classical symptoms of acute perforation of an ulcer is not difficult and procrastination now-a-days is the exception rather than the rule. The debate as to the performance of a gastro-enterostomy after closure of the perforation continues unabated, but in essence simmers down again to individualization of the case under consideration when deciding as to whether or not the patient is capable of withstanding the additional operative maneuver or whether it is better to postpone it until a subsequent time, if ever.

Bleeding peptic ulcers may not be dismissed with any trite aphorisms. Ulcer hemorrhage is one of the most serious complications which arises and one of the most difficult to treat. Of the whole group of ulcers, hemorrhage occurs in about 25 per cent and its seriousness in the main lies in its frequent recurrence and in the production of secondary complications.

The attitude that the initial hemorrhage from peptic ulcers is never fatal must be modified by saying that it is rarely fatal. I have seen three fatal hemorrhages from peptic ulcers over a period of two years, despite vigorous and varied types of treatment. The mortality is around two per cent for this group. During the active period of bleeding surgical intervention should rarely, I believe, be undertaken. When one does operate upon a bleeding ulcer in the midst of a hemorrhage, the difficulty is to find the bleeding point unless it is a large vessel and the hemorrhage is violent, and secondarily to do any removal of an ulcer, if it be on the posterior wall of the duodenum or stomach in the face of hemorrhage without very considerable mortality, necessitated by a resection type of operation is not possible save in the most expert hands.

Following a single hemorrhage it is a good rule to urge the individual to stick rigidly to dietary regime, and a very satisfactory number of the whole will not have a second hemorrhage and will be materially improved of their symptoms. After, however, the patient has proved by a second episode of bleeding that the ulcer probably is a callous one penetrating onto the pancreas or adhering to the liver, and therefore during a period of activity liable to again exsanguinate the patient, surgery should undoubtedly be resorted to.

A very careful and stimulating study by Allen and Benedict, of bleeding duodenal ulcers seen at the Massachusetts General Hospital over a period of 20 years established some most fundamental points. In a series of 1,804 cases, 628 had a history of gross bleeding—that is, approximately one-third of all the ulcers requiring hospitalization had at one time or another suffered massive hemorrhage. The age of the individual seemed to have a very important bearing upon the recurrence of hemorrhage and the depletion and fatalities which followed it.

They found that in the fatal group the average age was 56.3 years and in those who recovered, 41.8 years. The obvious correlary to this was the question of arterial changes which the older group suffered. Forty per cent of this series had had more than one hemorrhage. Recovery following the first hemorrhage was found by Kiefer to be followed by 40 per cent of failures under medical treatment, and where there had been two hemorrhages, 85 per cent of failures were noted.

Obstruction of the pylorus by cicaterizing ulcers always is an indication for surgical intervention, and it is well recognized that the treatment of this group of cases by gastro-enterostomy is eminently successful. Unquestionably, there are times during the exacerbation periods of duodenal and gastric ulcers when obstruction by some influence on the neuromuscular mechanism of the pylorus develops, or where the edema and infection

secondary to the lighting-up of the ulcer produces stenosis. These types are relieved temporarily by adequate medical management, but often recur and with stenosis due to increasing scar tissue formation, fall into the surgical group because of the mechanical obstruction. Actually, chronic, long continued obstruction usually is due to cicatrization, while acute obstruction may be due to edema or spasm and may not demand immediate surgical intervention, if at all.

That group of cases, whether duodenal or gastric, which emerges into intractability under medical regime for whatever reason, obviously has no other recourse than to submit to surgery. This group represents a most complex problem for the surgeon in making the selection of type of operation, and the postoperative management by strict adherence to medical regime is not a small factor in the ultimate success.

Selection of gastric ulcers for surgical treatment is not such a rigid and arbitrary decision as formerly—namely, that all gastric ulcers should be submitted to explorations. The possibility that a gastric ulcer from its inception, or sometime during its course might become malignant has in the past led many to adopt this attitude.

Of the ulcerating gastric lesions, one-half are malignant at the time of examination as can readily be demonstrated by roentgenray. It is the remaining 50 per cent which is difficult of diagnosis and which will lie heavily on one's conscience if a probable diagnosis of benignancy is arrived at and subsequently proved wrong.

The relationship between a benign gastric ulcer and cancer of the stomach has for many years been a problem of much interest and has resulted in a voluminous literature and many differences in opinion. McCarthy and Wilson years ago stated the belief that 71% of gastric cancers developed on ulcers. This is the high figure, whereas there are other pathologists who believe that no gastric cancers develop on ulcers. The first reference to such a relationship appears to be that of Cruveillier in 1829. Three years later Rokitansky made the observation that ulcers sometime appear with cancers and supported the thesis of Cruveillier that cancer sometime has its origin in a pre-existing benign ulcer.

The proponents of a chronic irritation factor as stimulating malignancy accept the high figures, while such men as Tripier suggest that the ulcer cancer was not a simple gastric ulcer with carcinomatous degeneration, but a slow-growing ulcerating malignancy from the beginning. Cabot and Adie in reviewing the literature made a report in the Annals of Surgery of July, 1925 on the relationship, coming to the following conclusions: "carcinomatous transformation of a peptic ulcer does not exceed 5 per cent. The proportion would be smaller if only the cases were included where the evidence is demonstrated, viz., a long history of ulcer—the limitation of the tumor to isolated foci or one portion only of the ulcer—freedom of the base from infiltration." Whichever side of the controversy one chooses to take, it seems to me that the important fact is that there is a relationship small or large, but it is of paramount importance to the individual who has an ulcerating lesion in his own stomach. To procrastinate beyond a reasonable period of time in arriving at such a conclusion is indefensible and unless an ulcer can be shown to be definitely benign by radiologic signs and clinical improvement, there is small question that it should be removed surgically and subjected to pathological examination.

Therefore, recognizing the probability of malignancy in the group of ulcers which are intractable and which must be differentiated accurately from the frankly benign group, one has to adopt some plan which in a reasonably short period of time will assure the patient of the true character of the lesion. Unquestionably, many of these gastric ulcers which are frankly benign are healed under medical treatment and the regime which Lahey has described seems a satisfactory method of differentiation, but only in the hands of skilled roentgenologists and gastroenterologists.

This plan appeals to me as being one worthy of adoption. He hospitalizes all peptic ulcer cases for a period of three weeks during which time they are put on an ulcer regime and fluoroscoped regularly in order that any changes in the ulcer might be noted, as well as relief of pylorospasm. If, during this time, the ulcer diminishes in size as evidenced by repeated x-ray examination, occult blood remains absent from the stools, and the patient is relieved symptomatically, medical regime is persisted in. If, however, there is no dimunition in size and disappearance is not accomplished, regardless of the size or appearance of the ulcer, the lesion is classed as intractable and surgical measures are instituted to determine whether or not cancer already exists.

Let me emphasize the fact that the time element in determining whether or not ulcer is intractable is an important one. Chronic gastric ulcers, and some gastric cancers extend over long periods of time with bearable discomfort under active neutralization and dietary measures and this is not to be tolerated. I have in mind two cases that I have operated upon in the past 18 months, one of

which had been under treatment for gastric ulcer close to the pylorus for five years, and the other for two years, both proved malignant upon resection. Both of these might have been classed as intractable at the end of a month's trial on diet and repeated roentgenray I believe, and this corresponds with the experience of others that the response must be within this time limit, otherwise surgery must be resorted to.

Jordan reported 133 cases of gastric lesions, 66 of which were frankly malignant. Of the remaining 67, 44 proved by the fact that they healed under medical regime and roentgenographic observation over a short period of time to be benign ulcers, while 7 were considered as intractable and submitted to operation. In this total group, for various reasons, 13 patients were operated upon after a pre-surgical period of treatment, having what was considered a probably malignant lesion. Twelve had resections and all were malignant. One had a gastroenterostomy, died and there was no autopsy finding, and two other cases operated elsewhere were found to be malignant so that there were 15 malignancies demonstrated in 67 gastric lesions—a percentage of 22.3.

Treatment

To speak of medical or surgical treatment of complicated cases of peptic ulcers is, I think, erroneous but rather one should use the term combined treatment for it is at the hands of both clinicians and surgeons that the patient receives the most adequate medical care.

When it is decided that surgery is indicated in one of the various groups outlined above, there are two types of attack, the direct and the indirect, both of which aim at accomplishing the same things. The object of operation, like that of medical management, is to reduce or relieve pylorospasm, and in addition to lower the hyperacidity.

The direct attack, or excision of the ulcer may be accomplished in one of several manners, namely, pyloroplasty with or without removal of a portion of the sphincter muscle after the manner of either Finney or Judd, and again by pylorectomy with re-establishment of the gastro-intestinal tract by the Bilroth No. 1 method. If resection for any of the various indications is undertaken, the re-establishment of the continuity of the gastro-intestinal tract, after sacrificing the first portion of the duodenum, may be accomplished by the Bilroth No. 2 operation or the anterior or posterior polya, or the Devine method.

In the gastric ulcers, one may excise the ulcer and perform a gastro-enterostomy or one may do any of the various types of resections which remove a portion of the stomach along with the ulcerating lesion. The controversy as to the applicability of partial gastrectomy for duodenal ulcers continues, with the balance changing, I think, in favor of continuing the less formidable procedures for the benign ulcers except for very special indications. Sacrifice of one-half or three-fourths of the stomach for a duodenal ulcer which will not become malignant, may be accomplished only with an increased mortality over the simpler procedures, and I believe should be held in reserve for a small, well-defined group of cases. To make it a routine procedure as some of the European surgeons have, I think is inadvisable here. It may be that there possibly is a different underlying pathology associated with peptic ulcers on the Continent, a fact which observers have noted as applying especially in German and Austrian clinics.

It has been pointed out that the inflammatory changes associated with both ulcers of the duodenum and stomach, in these clinics, are quite different from what we are accustomed to, and that duodenitis and gastritis of a more or less extensive variety is the rule rather than the exception there. This fact may justify a more extensive operation than is necessary in the ulcers we see ordinarily.

Chiasserini recently advocates gastro-duodenal resection as a systematic treatment for peptic ulcer, reporting 76 resections for duodenal ulcer and 18 for gastric ulcer with an average mortality of 7.4%. This mortality about approximates that of Finnister who was the first advocate of this radical procedure, but still is enormously higher than that of gastro-enterostomy or ulcer excision, and the end-results over a long period of years have not been sufficiently convincing yet to attract surgeons to its use routinely.

Direct excision of the ulcer with or without pyloroplasty can only be accomplished easily where there is either a single ulcer on the anterior wall or where the posterior wall ulcer may be easily mobilized and the operation completed as a Bilroth No. 1. This of course, is possible only in certain anatomical types of non-obese individuals. Where there is a posterior wall ulcer, either a resection must be made or the ulcer destroyed with a cautery and a posterior gastro-enterostomy accomplished.

Ten years ago, Judd and I described the technique of an operation for excision of duodenal ulcer with sacrifice of the anterior one-half of the sphincter muscle. We have carried this out together and separately over a large series of cases with functional results most satisfactory in character. The reduction of hyperacidity is accomplished by this

procedure, but only about one-half as sharply as follows gastro-enterostomy.

Immediate post-operative convalescence following resection with sacrifice of the anterior one-half of the pyloric sphincter is excellent and the mortality is extremely low. Judd and Hazeltine have reported a large series of cases with a mortality of .44 per cent and satisfactory results in 90 per cent. This compares favorably with any type of operation done for duodenal ulcer and emphasizes again the huge importance of proper selection of cases for operation.

My own experience parallels this in the continued use of the operation, but there have been some cases where I have found it advantageous to modify the procedure. If after excising the anterior wall ulcer by this method, one finds a posterior wall ulcer attached to the pancreas, it is better I think, to convert the operation into a Bilroth No. 1 doing a pylorectomy rather than to destroy the posterior ulcer with a cautery alone. If one elects simply to destroy the ulcer with a cautery, in my own experience it has been wiser to complement this with a posterior gastro-enterostomy.

The indirect attack on peptic ulcers by gastro-enterostomy yields a most satisfactory result in a high percentage of cases. A study of a large series of cases will find complete cure or satisfactory relief in also approximately 90 per cent of cases. The immediate decrease of hyperacidity and the emptying of the stomach of course will be accomplished quickly and adequately. The one great objection to routine gastro-enterostomy is the fact that a certain number of these cases do develop jejunal ulcers. Lewishon has reported an incidence of 35 per cent in his own series, much higher than any one else observed. The actual incidence is likely 6 or 7 per cent.

For gastric ulcers one has only the choice of excision of the ulcer and gastro-enterostomy or resection. The paramount object of the exploration is to accurately determine the question of malignancy in the ulceration lesion. These more radical procedures are urgently needed because of the likelihood of malignant degeneration of the lesion.

The location of gastric ulcers influences somewhat the type of operative procedure which is indicated. Sippy, in over 3,000 autopsies found the lesion on the lesser curvature in 34 per cent and at the pylorus in 12 per cent, the fundus in 3 per cent, greater curvature in 3.5 per cent, anterior wall in 9 per cent, cardia in 6.5 per cent and the anterior and posterior walls in 1 per cent.

When resection is indicated, my own experience has been that the posterior polya is an extremely satisfactory operation. The Bilroth No. 2 though, must remain in any surgeon's armamentarium and is an excellent operation, especially for those ulcers which have undermined the individual's resistance to such a point that a graded operation is distinctly indicated. Twice within the last 6 months I have operated upon gastric ulcers situated near the pylorus which I felt, because of the advanced age of the individual and his weakened condition, a graded procedure was essential. By doing a gastro-enterostomy, draining the stomach, and instituting rehabilitory measures over a period of four weeks following the initial procedure, I was able to resect the stomach in both cases.

I think that a graded procedure in gastric surgery is probably not sufficiently appreciated. We have long come to recognize the importance of multiple operations for malignancy of the colon, not because of technical difficulties encountered always, but frequently because of the patient's inability to withstand any formidable procedure. To a certain extent this applies to gastric lesions and is to be distinctly commended for elderly, worn, devitalized individuals.

Perhaps one of the most difficult problems in gastric surgery is the decision to operate or not to operate on a patient with a peptic ulcer producing massive hemorrhages, and if decision is made to operate, the time and type of operation still are major problems. While most bleeding ulcers will under rest and management, not result fatally, a certain number do die. In handling the ulcers which stop bleeding and allow the patients to recover their health, one may elect to operate in the period when the patient is a good surgical risk, and not depleted. After a second hemorrhage has been survived it is a good and practical rule to undertake surgery without delay. Where, however, an individual is admitted to the hospital suffering from massive hemorrhage and in a depleted state, the question as to the advisability of undertaking a formidable procedure even under the most favorable circumstances which can be manufactured in a modern hospital is one that will be perplexing and difficult for the more skilled and experienced surgeon. To operate on these individuals during the state of hemorrhage requires great fortitude and skill and the end-results reported from such attempts have been far from encouraging. I have had no experience in operating upon badly depleted patients suffering from massive hemorrhage during the time of the bleeding, except in one case and this case, despite my most vigorous

efforts succumbed twelve hours after operation.

About three per cent of bleeding ulcers perforate. Of course, this is an exceptionally difficult group to deal with under any circumstances, and usually the outcome is uniformly fatal regardless of types of attack. When one attacks a bleeding ulcer during a bleeding, the important thing is to get rid of the ulcer by doing an accurate dissection, ligating the bleeding vessel and re-establishing the gastro-intestinal continuity, a hazardous and formidable task Gastro-enterostomy alone is insufficient because one must get rid of the source of hemorrhage. Eleven per cent of bleeding ulcers which are treated by gastro-enterostomy without excision or destruction, bleed subsequently.

With the other type of case however, where one may elect so to speak, certain types of operation, it has been my experience that either a modified Devine operation as advocated by Bancroft, or a similar type advocated by Allen, both of which remove the ulcer and end up as a Bilroth No. 2, perhaps are the most acceptable. In the interim between hemorrhages, these operations may be done without too high a mortality but the operative difficulties are not to be minimized.

RADICAL OPERATION FOR CARCINOMA OF THE PENIS: REPORT OF TWO CASES*

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Louisville.

Carcinoma of the penis comprises perhaps less than one per cent of all malignant tumors. Because of this rarity as well as the location of the growth these cases are always of some interest. Most of the lesions appear in the usually accepted cancer age but patients under thirty have been known to develop the disease. Although trauma is believed to play only a questionable part in the etiology, the condition practically never occurs in those who have been circumcised. Both of the cases to be reported gave a definite history of injury which, however, in only one seemed to have any causal relationship. While other types of malignancy may appear epithelioma is the preponderant lesion and greatly resembles cutaneous epithelioma elsewhere in the body. The usual picture presented is a heaping up outward growth but necrosis, ulceration, and infection may gradually destroy the site of invasion. The appearance of the growth, bleeding or discharge, and pain are usually the only signs and symptoms observed at all early. Fortunately, extension occurs much sooner along the corpora cavernosa than the corpus spongiosum which accounts for little disturbance of urination. Metastasis generally occurs through the lymphatics along the dorsum of penis and is relatively slow. The superficial and deep inguinal and femoral glands are the first involved. When the invasion extends beyond these to the external iliac glands a cure cannot be expected. Later extension may reach the liver or other remote organs. The retroperitoneal glands are not involved as in malignancy of the testicle and their removal at times of operation is not necessary. Likewise, the testicles and bulbous portion of the urethra are remarkably free from invasion and the excision of either of these structures is rarely indicated. The usual so-called radical operation consists of only partial amputation of the penis with excision of the glands and gland-bearing tissue of the inguinal and femoral regions, these procedures being done through one or several incisions. This type of operation can be done only if more than an inch of uninvolved penis remains proximal to the growth. Fortunately, this is usually the case. When it is not, a more complete amputation must be done and a perineal opening be established. Because of the important nature of the structures involved amputation, regardless of the type, should be preceded by biopsy verifying the diagnosis. Post-operative x-ray treatment has been reported as unsatisfactory. Some temporary oedema of the scrotum may be expected due to interference with lymphatic circulation. Following partial amputation of the penis firm erection, satisfactory intercourse, and ejaculation have been reported.

Within a year we operated two patients with carcinoma of the penis and are able to present them as well as the following report. Because of the limited time available only the essential features of their cases will be given.

Case 1. R. B., white, 64, married, was first seen on June 15, 1932 complaining of a painful bleeding growth on his penis. He had always engaged in hard labor and had never been seriously ill nor operated. For three years before he had observed a painless swelling of the left side of his scrotum, which condition was apparently unrelated to his chief complaint. His traumatic history included an accident ten years before when he bruised his penis while riding horseback and had some subsequent bleeding from the urethra—and another accident two years before when he slipped while pushing a truck and fell striking his groin against the truck

*Read before the Jefferson County Medical Society.

handle. About ten months before I first saw him he noticed a small hard raised ulcerated place on the left side of the prepuce and involving the frenum. Chemical cauterization of some kind caused temporary improvement but soon the ulcerated area began to spread across the under-surface of the penis, including the glands, until it encircled about one-half the circumference. There was repeated scab formation which at first was rather complete but as the area enlarged and began to heap up beyond the skin level it was never entirely covered by the scab. The growth was rather slow at first but in the last three or four months had been much more rapid. It was during this period of rapid growth that it became tender and painful, bleeding on any exercise that caused his clothing to rub against it. The tenderness became so marked that it interfered with his working or walking. One peculiar symptom complained of was a creeping sensation in the penis at night. He had been impotent for a year or more. There was no difficulty in voiding but some increasing burning on urination. He denied venereal disease.

His physical findings were of no importance with the exception of a hydrocele of the left tunica vaginalis, hard, movable, discreet glands in both inguinal regions, and the penile lesion which was a tender, necrotic, cauliflower-like growth involving the frenum and under-surface of the glands and bleeding freely on manipulation. A tentative diagnosis of carcinoma of the penis was verified by biopsy which showed an epidermoid carcinoma.

Two days later the so-called radical operation was done, the glands and gland bearing tissue of the inguinal and femoral regions being excised and the penis amputated by the circular type of operation at a level approximately three centimeters beyond the growth. The bulbous urethra and the testicles were not disturbed and nothing was done in regard to the hydrocele at that time. No retention catheter was inserted. He voided seven hours after the operation and had to be catheterized only twice, both times in the following twenty-four hours. At first there was considerable drainage from the inguino-femoral regions. During his hospital stay he had several firm erections followed by some bleeding from the suture line. He was up in a chair on the sixth day and was discharged from the hospital on the fifteenth day.

He had entirely recovered within six weeks after the operation but has been impotent since leaving the hospital. As he has not found it convenient to have the hydrocele operated it has required aspiration several times. For a while there was considerable oedema of the suprapubic region and the scrotum but this has about subsided. About nine months after the operation he developed some stricture formation at the external meatus. This was entirely relieved by sounding and he now voids an excellent stream. He feels real well generally, is working regularly and has gained twenty-five pounds. No x-ray treatments were given. At a recent examination several questionable small glands were palpated in the right groin. Because of that he was advised to report frequently for observation.

Case 2. S. P., white, 72, a widower, was first seen on May 11, 1933, complaining of a painful swelling of the penis and inability to retract the foreskin. He had always done hard work and had had several severe illnesses and accidents unrelated to his chief complaint which dated back six months, when his penis was mashed by a log. From that time he had been unable to retract the prepuce. Four months later (two months before admission) an ulcer appeared on the skin of the shaft of the penis just beyond the margin of the glans. This ulcer apparently became infected, a purulent discharge drained from it, and the prepuce and tip of the glans became quite swollen and tender. There was no difficulty voiding but some burning on urination after the swelling and discharge appeared. The only treatment he had had was warm salt water applications. He denied venereal disease and asserted that he was still potent.

The essential point of interest in his physical examination was the condition of his penis. The prepuce was elongated, indurated, tender, and could not be retracted. On the under surface just proximal to the frenum there was a sinus discharging purulent material. A tentative diagnosis of phimosis and cellulitis of the prepuce was made.

He was circumcised and the prepuce found to be adhered to the glans by a wide mass of granulation tissue which invaded the glans substance. A portion of this tissue was excised for biopsy and a revised diagnosis of carcinoma was confirmed by microscopical examination which showed squamous cell carcinoma. Five days after the circumcision and biopsy a radical operation similar to the one just described for the other patient was done. A retention catheter was used in this case but became dislodged on the second day and the patient voided normally afterwards. He had more prolonged drainage from the inguino-femoral regions but was up on the

eighth day and discharged from the hospital on the fourteenth day.

The oedema of the supra-pubic region and the scrotum has also been more marked in his case but seems to be subsiding now. Like the first patient he required sounding after about nine months because of stricture formation at the external meatus. He reports that he still has an occasional erection. While he has not gained any weight his general health is excellent.

Both patients are free from pain, well satisfied with their operative results, and apparently unconcerned about the necessary mutilation of the procedure. Regardless of the subsequent course of these or similar cases I feel that the immediate relief obtained justifies this operation (with its reported mortality of less than three per cent) in any patient who has a painful malignancy of the penis and who can be at all properly prepared for surgery. Local recurrence is rare, death by remote metastases is less distressing, and a permanent cure is to be expected in a certain percentage of cases.

DISCUSSION

D. P. Hall: We know that this condition usually occurs in elderly individuals, seventy years of age or more, and that partial amputation of the penis is generally regarded as conservative treatment, relieving the symptoms and giving these patients a few years more of comparative comfort. I am personally convinced that it is the best plan to dissect out the inguinal glands, although there are those who believe it unnecessary. However, even with the most complete dissection of both inguinal regions and radical amputation of penis, there is frequently recurrence in these cases. Batlin and Bryan reported, in the Annals of Surgery a few years ago, 165 cases in which the glands had been removed with approximately 35 per cent of recurrences. This I consider a fairly good record.

All of the cases of carcinoma of the penis that have come under my observation have been of the type Dr. Hancock described, the so-called broad base, ulcerative type.

I have not seen any better results from the use of radium therapy in these cases than is obtained from surgery. Perhaps the best plan is to do an amputation with the so-called "cutting current" including dissection of the inguinal regions.

E. S. Frazier: It has been my fortune to have seen, during the past year, three cases similar to those reported by Dr. Hancock. In discussing the etiology of this condition, Dr. Hancock mentioned that it almost never occurs in circumcised individuals. There have been reported five hundred cases, which included four Mohammendans who had carcinoma of the penis despite the fact that they had been subjected to early circumcision. Other writers have reported the occurrence of carcinoma of the penis under similar conditions. However, there is no question that the disease does not occur as frequently in individuals who have been circumcised as in those with long foreskins.

In regard to dissection of the lymph nodes, as brought out by Dr. Hall, it is in the epitheliomatous type of tumor that local amputation is made without dissecting out the lymph nodes. In all cases of carcinoma of the penis, the consensus of opinion is that the lymph nodes should be removed.

In Dr. Hancock's cases, of course the ultimate outcome cannot be foretold. However, in a large percentage of such cases, with early diagnosis and radical dissection, including the lymph nodes, these patients do have a chance to remain well.

J. Duffy Hancock, (in closing): I would merely emphasize my opinion that, even should recurrence take place in these cases rather promptly, say in three or four years, still the operation is justified. Both of these patients were in misery before they were operated upon. They were unable to walk because of the pain and in one case there was also terrific bleeding. Therefore, I feel that if the operation serves to give them three or four years of comparative comfort, it has been justified.

Dr. Hall referred to the fact that cases of carcinoma of the penis have been noted in Mohammedans who had been circumcised. I have read that report. The general impression that carcinoma of the penis does not occur in circumcised individuals is probably due to the fact that, it practically never occurs in Jews, and the idea has been advanced that possibly the Jews enjoy racial immunity to the disease in addition to the advantage of early circumcision.

Hydatid Cysts of Liver.—Carayannopoulos performed a two stage operation on some of his patients with hydatid cysts rupturing into the biliary tract. This consisted first in attacking the cyst and in a second trial attempting to free the obstruction of the biliary passage. In some patients this order was reversed. He concludes that in the majority of cases in which hydatid cysts of the liver rupture into the biliary tract a combined operation in one or two stages to open the cyst and drain the biliary tract is necessary. Simple drainage of the principal passage with simple marsupialization also effects a number of cures, but especially in cases of infection the combined method is to be preferred.

MEMORIAL TO DR. P. H. STEWART

December 24, 1867—October 8, 1934

At the last meeting of the members of the Riverside Hospital Staff, September 7th, we unanimously elected Dr. P. H. Stewart, President for the coming year. That he would not be here this evening to join with us in the discussion of the many subjects and questions presented was very unexpected and foreign to our thought. Yet we bow our heads in sadness as we behold his chair and place vacant. In our midst we miss his cheery smile, and his counsel. In his passing so quickly and unexpectedly from this scene of action, which to him was a labor of joy and love, in his answer to the inevitable call of Him, who doeth all things well we again are reminded of the Democracy of Death, of life's broken columns, its cut flowers and its unfinished beginnings. "That life is only a sheet of paper, white, whereon each of us may write his line or two; then comes night."

Dr. P. H. Stewart, was born in Salem, Livingstone County, Ky., December 24th, 1867, and died October 8th, 1934. His life is now history, most unique and interesting. He is now gone, "But know ye not that there is a Prince, and a great man fallen, this day in Israel."

Be it far from the essayist to attempt in a pronouncement such as this to do justice to the beauty of character of Dr. Phil Stewart. You, who have known him as he was in his every day walks of life on the streets, greeting his many friends; in his office, meeting and greeting and cheering the worried and depressed; in the hospital, at the operating table, where his skill, knowledge, surgical judgment, surgical approach, were the admiration of all; can doubtless think in terms and language far more befitting and eloquent, than it is my poverty stricken thought and vocabulary to here express.

The task of writing of the dead is a sad undertaking, but to write of a dead friend is doubly so. Though Dr. Stewart was much my senior, I am most happy to remember him over a period of twenty-five years, as my Friend.

Dr. Stewart's literary education was obtained in the common schools of Livingstone County, and finished at the standard Normal School in Madisonville, Ky., in 1886. He then went west for a season, trying his fortune at bookkeeping and other clerical work. He then returned home the following year and began his study of Medicine in the University of Louisville, Ky., from which he graduated with honors which then and there stamped him as a Leader among men. He at once, located in 1890, in Paducah, where he practiced his profession until the time of his death, October 8th, 1934.

Many times, Dr. Stewart was honored by the members of his profession. He joined the Southwest Kentucky Medical Association in May, 1890, and was elected Secretary in May, 1893, and was re-elected to the same office for seven years, consecutively. In May, 1901, he was elected President of the Southwest Kentucky Medical Association. Several times he was elected President of the McCracken County Medical Society, which position he held at the time of his death. He was elected President of the Kentucky State Medical Society. He was a charter member of the American College of Surgeons. All of these honors were not attained by sudden flight, but he "while his companions slept, was toiling upward in the night." They each and all attest his worth and esteem, in which he was held by those most capable to judge.

The old order is passing, and with it, Dr. Stewart. We shall not see his like again.

As one travels over the highways of our land and country, and visits the many places of historic interest and scenic beauty, whether it be on the shores of the stormy Atlantic, or the placid waters of the Pacific, whether it be in the warm land of flowers and sunshine, or on the Divide of the Canadian Rockies, or by the shores of some inland lake, or winding river, somewhere we find a scene so impressive, so grand and sublime, so beautiful, so blended with the blue of the sky above, and earth, with its many expressions of rugged settings below, painted in tints of colorful beauty by the golden rays of a setting sun, between; painting as it were a brush in the hands of a Master on hill and mountain, lake, river and sky a picture so impressive, so beautiful, so inspiring that it beggars description, but a scene so indelibly impressed that time and age will not obliterate, a scene that will stand recorded in memory, dominant over all others.

And so it is on our highway of Life. We come in contact with a fellow man, whose personality charms, whose character grows bigger and brighter as contacts become more frequent and varied; and with the years, admiration, without envy, deepens; and friendship grows, unbidden. May we here and now say in the presence of those who knew him as he was, who knew his mistakes and shortcomings, which he himself was first to acknowledge, and such vices were very few, were far overshadowed and eclipsed by his virtues, that were many; that so long as men admire beauty of character, honesty of purpose, courage of conviction, fairness in consultation room with his fellow doctors a

spirit manifest, and always guided by that basis of all religion, the Golden Rule, which ever and always inspired the friends and family of the one, who was sick, with more confidence in the present attendant, than existed previously. So long as doctors admire skill and dexterity, so long as self effacing service shines as a bright virtue in the relation to man, and a bright jewel on the escutchion of any surgeon or doctor, so long will the memory of Phil Stewart stand preeminent among his fellows and all mankind.

"Green be the turf above thee,
Friend of my early days,
None knew thee but to love thee,
None named thee, but to praise."

In recognition of his many attainments and his great and continued service to Riverside Hospital, be it resolved:

That we, members of the Executive Committee herewith, record our feeling of a great loss, and in tribute to his memory adopt this expression of our sorrow;

And further be it resolved: that a copy of this memorial be spread upon our minutes, a copy sent to his wife, and a copy sent to the Kentucky Medical Journal.

Executive Committee
E. R. Goodloe, Chairman
E. B. Willingham
Leon Higdon
Allen Shemwell.

BOOK REVIEW

CONCEPTION PERIOD OF WOMEN. By Dr. Kyusaku Ogino, Head of the Gynaecological Section of Takeyama Hospital, Nigata, Japan. English translation by Dr. Yonez Miyagawa, Director of Government Institute for Infectious Diseases, Tokyo Imperial University, Hongooku, Tokyo, Japan, June 6, 1934, Harrisburg, Pa., Medical Arts Publishing Co., 1803 Wood Street, 8vo. leatherette binding, price $1.00.

The publication, by the Medical Arts Publishing Co., of Harrisburg, Pa., of this book by the foremost gynecologist of Japan, is the culmination of the author's clinical research on the subject of natural birth control extending over a period of fifteen years. Working independently of one another, Dr. K. Ogino, of Japan, and Dr. Herman Knaus, of Austria, arrived at practically identical conclusions and established the existence of definite and determinable periods of sterility and fertility in women. Their findings have become known throughout the world as the Ogino-Knaus theory, and they have been supported by the independent research of medical scientists in Europe and America. Among the noted gynecologists whose work has corrobated the theory are Dr. Carl Ruge, Dr. Robert Meyer, Prof. Schroder of Kile, Prof. Tscheidewahn and Prof. Fraenkel of Breslau, whose investigations cover a period of thirty years.

Dr. Ogino has based his theory upon the duration of ovulation in the human female and the viable period of the ovulated ovum and of the spermatozoa. Based upon his observation of these factors in a great number of cases, he has reached the conclusion that the period during which conception is possible does not exceed eight days in a twenty-eight day cycle.

A very efficient book on the subject, when you realize that 700,000 abortions are performed in the United States each year with about 15,000 deaths.

SURGICAL CLINICS OF NORTH AMERICA. Issued serially, one number every other month. Volume 14, Number 4. Chicago Number—August 1934. 288 pages with 88 illustrations. Per clinic year February 1934 to December 1934. Paper, $12.00; cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1934.

The Fracture Clinic of Dr. G. L. McWhorter is well presented.

The article on peptic ulcer contains not only the surgical aspect of this disease, but the medical treatment also. On the whole, this is a very interesting and valuable addition to the surgeons and the internist's library.

SURGERY OF A GENERAL PRACTICE. Arthur E. Hertzler, M. D., Chief Surgeon Halstead Hospital, Professor of Surgery, University of Kansas and Victor E. Chesky, M. D., Chief Surgeon Halstead Hospital, with 42 illustrations. The C. V. Mosby Company, Publishers, St. Louis, Mo., Price $10.00

The writer aptly says that the success of major surgery is directly dependent upon the intelligent practitioner. Recognition of a lesion in the beginning makes for successful operation, consequently especially attention has been given to the early recognition of lesions which later may become malignant and are first seen by the general practitioner. The description of a number of operations has been added that can and should be done in simple surroundings.

The writer in conclusion says that those who shy at state medicine may serve best the cause by serving the patient efficiently, inexpensively and quickly. When the general practitioner cared for the ailing-public, there was no complaint about the high cost of hospital care.

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NEXT MEETING LOUISVILLE

COUNTY SOCIETY REPORTS

Grant: The regular meeting of the Grant County Medical Society was held in Williamstown, Wednesday, November 21, 1934, at 7:30 p. m., with the following members present: Drs. A. D. Blaine, N. H. Ellis, F. M. Clinkerscales, C. M. Eckler, Russell Kensey, J. W. Abernathy, and C. A. Eckler. The minutes of the last meeting were read and approved, and the usual business transacted.

We now had a number of interesting case reports, one of pericarditis accompanying rheumatic fever in a boy of twelve years. Another in a married woman, who has an obscure pain in her knee. Another, a boy of five years with recurring hives at the same time each day, with greatest distention of abdomen. These cases are always interesting as are the discussions.

We were now entertained by Dr. Bernard Schwartz from the Jewish Hospital in Cincinnati, who made a lengthy, instructive and most excellent talk on heart disease as we find them in our every day practice. He brought out the various phases in a most interesting and instructive way and invited questions as he went along, that further made his subject the more instructive. Dr. Schwartz was very pointed in his lecture, and used just the things which were of initial importance to us as general practitioners.

We certainly were glad to have this able man with us, and hope to have him again at some future date. We now adjourned to meet the usual time in December.

Topic for next month: Each member supposed to have an interesting Case Report. This to be followed by election of officers for 1935.

C. A. ECKLER, Secretary.

Henderson: Dr. John Cabell Moseley, was born in the County of Henderson, Kentucky, on the thirtieth day of December, eighteen hundred and seventy-four, the son of Thomas Boulding and Sue Bell Moseley.

He received his early education in the common schools of Henderson County and at the high school in the City of Henderson, Kentucky. At the age of seventeen he began the study of medicine at the Louisville Medical College, Louisville, Kentucky, graduating four years later. After graduating in medicine he returned to his native county where he practiced his profession until the time of his death.

On October the fifteenth, nineteen hundred and two, he was united in marriage with Miss Myra Louise Banks, daughter of Mr. and Mrs. David Banks, of Henderson, Kentucky, and to this union there was born one child, a daughter, Martha.

He frequently attended clinics in the Metro-

politan cities and endeavored to keep abreast of the times in both medicine and surgery. At the time of his death he was a member of the American Medical Association, the Kentucky State Medical Society and the Henderson County Medical Society.

Dr. Moseley was a man of winning, genial manner, and attracted friends from every walk of life. He gave of his time and talents generously to the poor never turning a deaf ear to those in distress, indeed he was a true physician and a loyal friend.

Resolved: That in the death of Dr. John Cabell Moseley, the Henderson County Medical Society loses an honored and highly respected member; his wife a good husband; his a daughter a loving father, and the public a faithful and useful citizen and servant and we express our heartfelt sympathy to the bereaved family.

That these resolutions be spread upon the minutes of the Society and that a copy be sent the Kentucky State Medical Journal.

WILLIAM V. NEEL,
SILAS GRIFFIN,
WALTER L. O'NAN,
Committee.

BOOK REVIEWS

MINOR SURGERY IN GENERAL PRACTICE.—By W. Travis Gibb, M. D., Consulting Surgeon, City Hospital and Central and Nurcological Hospitals. Formerly Attending Surgeon Work House and Penitentiary Hospitals and Hospital For the Aged and Infirm Poor, New York. With 148 illustrations. Paul B. Hoeber, Inc., New York. Price $5.00.

The writer has endeavored to limit himself to the discussion of those cases which ordinarily come under the head of minor surgery such as are encountered by the general practitioner, especially in the rural sections and include the management of accidental injuries or inflammations, removal of minor growths, the repair of physical defects, including fractures and dislocations as can be adequately cared for by the local physician armed with practical knowledge of aseptic technic and with ordinary surgical instruments. Particular attention is given to the necessity of asepsis in all operative measures and in the treatment of accidental wounds, also avoidance of pain by means of local and regional anesthesia. The author's style is clear and definite and the book is a valuable addition to the library of the surgeon as well as the general practitioner.

PRACTICAL TALKS ON HEART DISEASE.—By George L. Carlisle, M. D., Associate Professor of Clinical Medicine, Baylor University, Dallas, Texas. Charles C. Thomas, Publisher, Springfield, Ill. and Baltimore, Maryland. Price $2.00.

This book presents practical information on the diagnosis and treatment of heart disease.

It shows the general practitioner, in a clear and simple way, that ninety per cent of abnormal hearts are easy to diagnose and treat properly. Every point brought out can be ascertained at the bedside or in the office without the use of special instruments.

For the practitioner who believes that heart disease is difficult to diagnose and treat, this enlightening book will supply a helpful answer to a subject with which he can now deal more easily every day.

THAT HEART OF YOURS.—By S. Calvin Smith, M. D. Author of Heart Affections, Their Recognition and Treatment, Heart Records, Their Interpretation and Preparation, How Is Your Heart. Illustrated. J. B. Lippincott Company, Publishers. Three illustrations in color and three in black and white. Price $2.00.

An invaluable book for those who have—or think they have—heart trouble. It is a message of optimism and heart cure for hurrying humanity. Without a word of alarm the author tells about the heart in illness and in health, in distress and in comfort, at work and at rest, as any physician would gladly tell a patient face to face if time permitted the full recital of the intimate details of heart care. The purpose of this book, as the author states in his foreword, is to supplement and amplify the information which physicians give to a heart patient when time permits and when the patient is in a receptive mood. With the newer understanding of heart affections and with the advance of modern methods of study, the once prevalent dread, horror and hopelessness of heart impairment have beaten a hasty retreat and given place to encouragement, confidence and optimism for every heart afflicted. Although the conquest of heart trouble has been made by modern medicine, the conquest of troubled hearts rests largely with the individual. The author is well known as a pioneer in the modern study of the human heart. He writes in a cheerful, optimistic vein with the authority of rich experience and with the confidence born of knowledge.

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KENTUCKY MEDICAL JOURNAL

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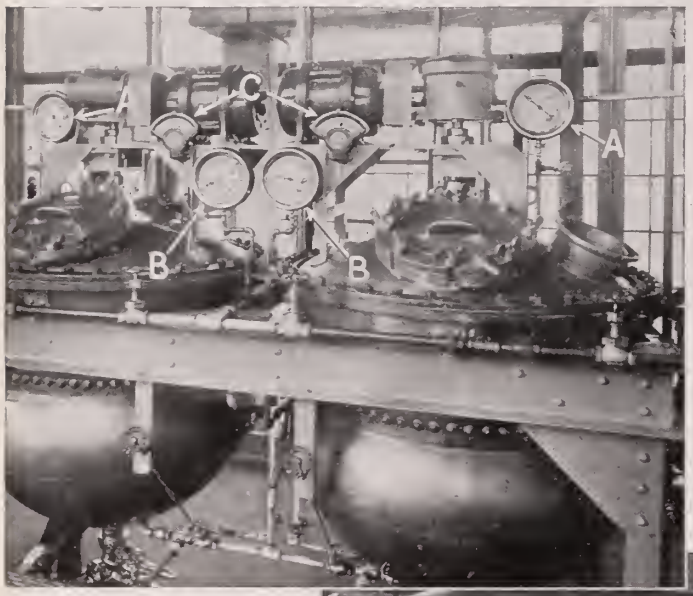
CONTROLLED Cereal Cookery

If you instruct ten different mothers, "Cook baby's cereal thus and so," there will be ten different results.

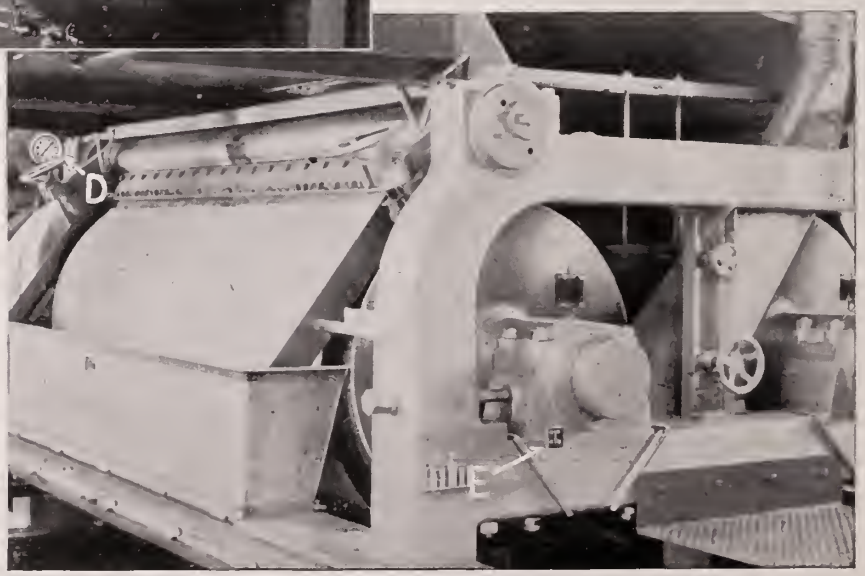
HOME-COOKED cereal is seldom a uniform produet . . . because of many uncontrolled factors. The cook, for instance, rarely measures the ecreal and the liquid accurately. Nor does she time the eooking carefully. Even if she does, the intensity of the heat varies. Further, the degree of evaporation differs.

Even the type of utensil is a factor. Cooking cereal in a double boiler is likely to cause a surface "skin" to form that is even less digestible than raw starch, Carman *et al* find from digestibility studies *in vitro* of breakfast eereals. They also report that single-boiler cooking for more than 15 minutes aetually "dccreases digestibility because of the formation of lumps produced by too rapid evaporation of water." This clumping is unavoidable without a condenser and with ordinary household utensils.

Pablum*, in contrast, is manufactured by a patented process and precision methods which insure a thoroughly cooked and uniform cereal. This is substantiated by *in vitro* studies of Ross and Burrill, which show that the starch of Pablum without additional cooking is more rapidly digested than that of oatmeal, farina, cornmeal, or whole wheat cooked 4 hours in a double boiler.



Left—Two double-jacket cookers in which Pablum is steam-cooked under rigid control. Live steam of uniform pressure and temperature flows into the cookers and displaces air above the cereal thus preventing oxidation and affording protection to vitamins and flavor. A unique paddle-knife constantly agitates the mixture so that a fresh surface is constantly presented to the steam. Note three gauges used in controlling cooking: (A) gauges maintaining uniform steam pressure in tops of cookers; (B) gauges regulating steam pressure in surrounding jackets; (C) thermometers for control of temperature (control of steam pressure and of temperature are both essential).



Right—One of many drum dryers used in the manufacture of Pablum. After the cereal mixture is steam-cooked it is dropped between revolving steam-heated rollers which roll and dry it in a uniform layer of material. Gauge (D) is used as a check on the steam pressure within the drums. Distance between them is maintained within thousandths of an inch by means of a micrometer plate (E).

*Pablum (Mead's Cereal pre-cooked) is a palatable cereal enriched with vitamin and mineral containing foods, consisting of wheatmeal, oatmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, iron, salt, and sodium chloride. Patent pending.

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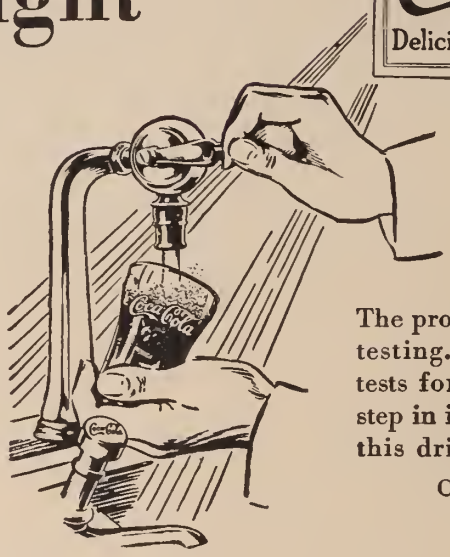
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Allen	A. O. Miller	Petroleum	February 27
Anderson	J. B. Lyon	Lawrenceburg	February 4
Ballard	F. H. Russell	Wickliffe	February —
Barren	Paul S. York	Glasgow	February 20
Bath	H. S. Gilmore	Owingsville	February 11
Bell	R. F. Porter	Middlesboro	February 8
Boone	R. E. Ryle	Walton	February 20
Bourbon	W. B. Hopkins	Paris	February 21
Boyd	R. G. Culley	Ashland	February 5
Boyle	P. C. Sanders	Danville	February 12
Bracken	J. M. Stevenson	Brooksville	February 4
Breathitt	O. M. Goodloe	Jackson	February 19
Breckinridge	J. E. Kincheloe	Hardinsburg	February —
Bullitt	S. H. Ridgeway	Shepherdsville	February —
Butler	G. E. Embry	Morgantown	February 6
Caldwell	W. L. Cash	Princeton	February 5
Calloway	A. F. Russell	Murray	February 7
Campbell-Kenton	Luther Bach	Bellevue	February 7-21
Carlisle	J. F. Dunn	Arlington	February 5
Carroll	J. M. Ryan	Carrollton	February —
Carter	W. S. Hawn	Grayson	February 12
Casey	Wm. J. Sweeney	Liberty	February 28
Christian	M. A. Gilmore	Hopkinsville	February 19
Clark	R. H. Scobee	Winchester	February 15
Clay	J. L. Anderson	Manchester	February 12
Clinton	S. F. Stephenson	Albany	February 16
Crittendon	C. G. Moreland	Marion	February 11
Cumberland	W. F. Owsley	Burkesville	February 6
Daviess	I. A. Thorpe	Owensboro	February 12-26
Elliott			
Estill	Walter Cox	Irvine	February 13
Fayette	John Harvey	Lexington	February 12
Fleming	J. B. O'Bannon	Flemingsburg	February 13
Floyd	E. E. Martin	Allen	February 8
Franklin	W. S. Snyder, Jr.	Frankfort	February 7
Fulton	Glynn F. Bushart	Fulton	February 13
Gallatin	J. M. Stallard	Sparta	February 21
Garrard	B. Earl Caywood	Lancaster	February 21
Grant	C. A. Eckler	Dry Ridge	February 20
Graves	H. H. Hunt	Mayfield	February 5
Grayson	C. F. Blankenship	Leitchfield	February 28
Green	S. J. Simmons	Greensburg	February 4
Greenup	C. W. Monroe	Greenup	February 8
Hancock	F. M. Griffin	Hawesville	February 4
Hardin	D. E. McClure	Elizabethtown	February 14
Harlan	Clark Bailey	Harlan	February 23
Harrison	W. B. Moore	Cynthiana	February 4
Hart	S. F. Richardson	Munfordville	February 5
Henderson	Walter O'Nan	Hendorson	February 11-25
Henry	Owen Carroll	New Castle	February 25
Hickman	Chas. Hunt	Clinton	February 7
Hopkins	David L. Salman	Madisonville	February 7
Jackson			February 2
Jefferson	Uly H. Smith	Louisville	February 4-18
Jessamine	J. A. VanArsdall	Nicholasville	February 21
Johnson	P. B. Hall	Paintsville	February 9
Knott	M. F. Kelley	Hindman	February 23
Knox	F. R. Burton	Barbourville	February 22
Larue	D. W. Gaddie	Hodgenville	February —
Laurel	Oscar D. Brock	London	February 13
Lawrence	W. C. Gose	Louisa	February 18
Lee	W. D. McCullom	Beattyville	February 9
Leslie	John H. Kooser	Hyden	February —
Letcher	R. Dow Collins	Whitesburg	February 26
Lewis	J. D. Liles	Vanceburg	February 18
Lincoln	Lewis J. Jones	Houstonville	February 15
Livingston	Wm. C. Davis	Salem	February —
Logan	Walter Byrne, Jr.	Russellville	February —
Lyon	H. H. Woodson	Eddyville	February 5
McCracken	Leon Higdon	Paducah	February 13-20
McCreary	R. M. Smith	Stearns	February 4
McLean	G. L. Thompson	Calhoun	February 14
Madison	Hugh Mahaffey	Richmond	February 21

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Marion	W. C. Guffey	Lebanon	February 19
Marshall	L. Henson	Benton	February 26
Mason	Allen F. Murphy	Maysville	February 15
Meade	A. A. Baxter	Brandenburg	February 28
Menefee	E. T. Riley	Frenchburg	February —
Mercer	J. Tom Price	Harrodsburg	February 12
Metcalfe	P. W. Bushong	Edmonton	February —
Monroe	Geo. E. Bushong	Tompkinsville	February —
Montgomery	D. H. Bush	Mt. Sterling	February 12
Morgan	W. H. Wheeler	Betsy Sayne	February —
Muhlenberg	G. L. Simpson	Greenville	February 12
Nelson	R. H. Greenwell	Bardstown	February —
Nicholas	T. P. Scott	Carlisle	February 18
Ohio	Oscar Allen	McHenry	February 6
Oldham	S. J. Smock	LaGrange	February 5
Owen	K. S. McBee	Owenton	February 7
Owsley	D. E. Wilder	Booneville	February 4
Pendleton	W. A. McKenney	Falmouth	February 13
Perry	R. L. Collins	Hazard	February 11
Pike	M. D. Flanary	Pikeville	February 4
Powell	W. Johnson	Stanton	February 4
Pulaski	M. C. Spradlin	Somerset	February 14
Robertson			February 18
Rockcastle	Lee Chestnut	Mount Vernon	February 14
Rowan	G. C. Nickell	Morehead	February 26
Russell	J. B. Scholl	Jabes	February 11
Scott	F. W. Wilt	Georgetown	February 7
Shelby	W. E. Morris	Shelbyville	February 21
Simpson	N. C. Witt	Franklin	February 17
Spencer			
Taylor	W. B. Atkinson	Campbellsville	February 7
Todd	B. E. Boone, Jr.	Elkton	February 6
Trigg	H. L. Wallace	Cadiz	February 27
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	February 27
Warren	Hal Neal	Bowling Green	February 13
Washington	J. H. Hopper	Willisburg	February 20
Wayne	R. E. Teague	Monticello	February 7
Webster	C. M. Smith	Dixon	February 22
Whitley	C. A. Moss	Williamsburg	February —
Wolfe	G. M. Center	Campton	February 4
Woodford	Chas. F. Voigt	Midway	February 7

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5. Always Returns to Original Alignment
6. Takes Strain Off Straps
7. Rigid Bridge
8. Protects Lenses
9. Patented
10. Made by Shuron

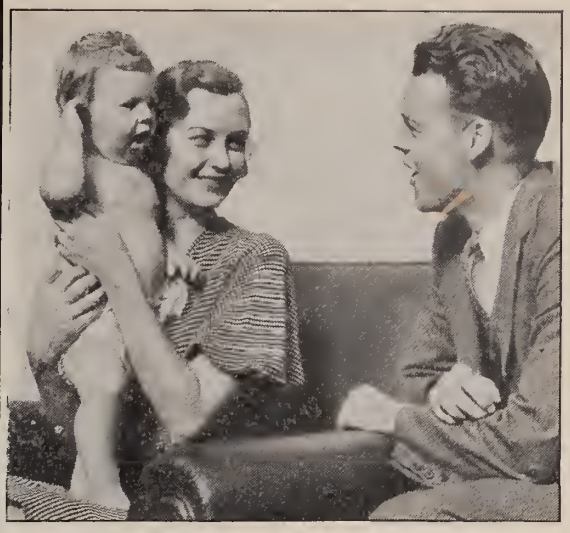
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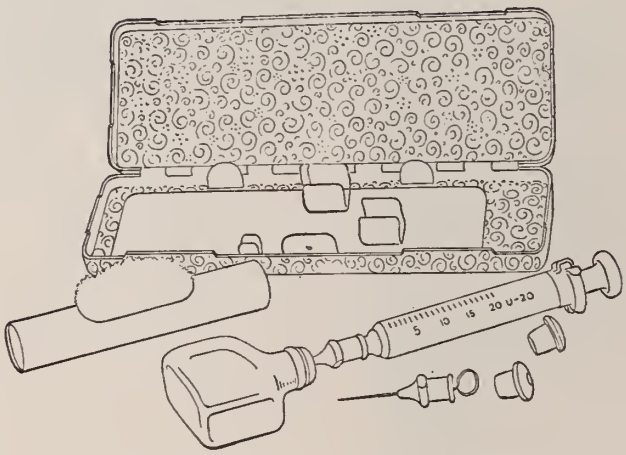
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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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MEDICAL ECONOMICS

This issue of the JOURNAL is devoted practically completely to extracts from the Report of the Committee on Medical Economics of the Jefferson County Medical Society. This is one of the most important reports that have been read before any County Society in the United States and is in line with the advanced studies that are being made in this important subject by leading Societies in other states. It is unfortunate that the full report is so voluminous that it cannot be published entirely, but the Editor has had the approval of Dr. Virgil E. Simpson, the Chairman of the Committee, for the matter which is presented.

This report evidently is the result of enormous labor on the part of a large number of the most active physicians in Louisville. The investigation as to facts is of especial importance. Many references are made to the motives of individuals and to their purposes which would not be made, and are not approved, by the Editor of the JOURNAL. We are confident, however, from the proceedings of the Harlan Meeting of the State Association, recently published, that the principles which are approved by this Committee and the Jefferson County Medical Society are approved practically unanimously by the organized medical profession of Kentucky.

We trust that every reader of the JOURNAL will read every page of this issue. While some of the applications are not useful in smaller and poorer counties, the principles are of great value and it will give our members food for thought, which is of great importance at this juncture in medical economics.

GREETINGS FROM JEFFERSON COUNTY MEDICAL SOCIETY

Jefferson County sends greetings to all county societies throughout the State. We cordially invite you to attend our meetings which are held on the first and third Mondays each month at 7:45 P. M. at the Amphitheater, Louisville City Hospital. Attractive programs are being arranged. Several well known guest speakers will address our Society during the year. We will count it a privilege and pleasure to have you as our guests at any of the meetings. The privilege of the floor will be extended to you and also other courtesies. We shall be glad to send you our programs if you so desire.

Jefferson County will be hosts to the 1935 session of the Kentucky Medical Association. Already plans are underway for your pleasure and entertainment while in our city. Our Society is in splendid shape; great harmony and a fine spirit of fellowship pervades the ranks. There has been a marked increase in attendance noted in the past two or three years, likewise, which is a splendid indication for the future, our younger men are taking an active part both in appearing on the programs and in discussing case reports and essays. Despite the depression, we have more members enrolled in the past two years than ever before. It is our opinion that an active County Society with good papers presented and lively discussions following, is very essential to the welfare of the physicians in general. We know from experience that the information gained is indirectly a great help to the patient and all of us need new thoughts, ideas and mental stimulation.

JAMES H. PRITCHETT, M. D.
President of Jefferson County
Medical Society.

AN UNUSUAL OPPORTUNITY

The Children's Free Hospital in Louisville through the courtesy of its Board of Trustees offers the opportunity for any doctor in the state to spend a week in the hospital. They will be given the privilege of accompanying the visiting and house staff during their round also of being present at all major and minor operations and blood transfusions. The Laboratory director will demonstrate the newer methods of urine and blood examinations, in fact it will be an intense one week internship.

That each physician can better secure intensive instruction two will be admitted each week. Any physician who wishes to avail himself of this unusual opportunity may do so by writing directly to Dr. Philip F. Barbour, Chairman, of the staff.

A STUDY OF THE NEEDS, CARE AND COSTS OF SERVICES RENDERED THE SICK AND INJURED OF LOUISVILLE AND JEFFERSON COUNTY, STATE OF KENTUCKY, FOR THE YEAR 1932.

Extract From A Preliminary Report Made by the Committee on Medical Economics, Jefferson County Medical Society, December 18, 1933*

The Reasons For Creating a Committee on Medical Economics

In the popular mind the creation of Committees on Medical Economics by a great number of medical societies will, no doubt be linked to the Report of the Committee on the Cost of Medical Care issued in 1932. The reflecting mind, however, will recognize that changing conditions directly affecting the practice of Medicine had been in evidence for a number of years; in fact, it was the very existence of such flux that inspired the Committee on the Cost of Medical Care.

Economics as a term must be subjected to the evolutionary influences of the present day. Originally defined as the "science of wealth" because it concerned the wealth-getting and wealth-using activities of man, it must now be recognized that it is better defined as a science which is concerned with the communal problems of economic life. The older definition represented a thought dealing only in terms of material goods, while the newer one remembers that service is as much a part of the community life as property. Hence, professional service rendered by the artist, the architect, the teacher, the physician, has come to be a part of a community's economic problem. Since economic systems revolve around a concept of value, at least a cost, medical service may properly claim a place in the constellations making up the firmament here meaning Economics.

This newer concept of Economics is, in reality, indicative of a change of interest rather than a change of attitude; it is, in reality, a scrutinizing study of all possible agencies for altering the organization of the community's economic life for better. With the recognition of the attainment of Medicine to "a place in the economic sun" comes new elements requiring appraisement, with new responsibility, a new liability. Every gain has its costs.

For the first time one finds Medical Economics nearly defined. In "An Introduction to Medical Economics," prepared by the Bureau of Medical Economics, American Medical Association, current year, it is "described," if not defined, "as a branch of Economics which deals with the production, distribution and consumption of the values involved in medical services."

While the personal character of a physician's investment is admittedly the most significant feature of that investment, modern medical progress has made his professional equipment of such added importance that "the theory of medical capital has taken on a new phase." For example, it is estimated that the investment in equipment alone for medical and detail service is over five billion dollars, while the total investment in equipment by physicians and dentists in the U. S. amounts to nine hundred millions. There is, indeed, a medical economics even were the term economics still confined to a consideration of material things. To this changed condition in the practice of medicine is attached a cost. There is now being made an attempt to substitute the ethics and organization of the business world for the time-honored ethics and forms of organization of the medical profession. This effort is made to appear all the more disquieting when one notes that, simultaneously, other economics and social students are declaring that the imperative need of the industrial world is its acceptance of professional standards. It must be evident that this invitation carries, indeed, a sincere form of flattery. The maintenance of these tested professional standards during the present social relations upheaval and resistance to the encroachment of industrial standards must, likewise, be evident. Industrial concerns guard their trade secrets with zeal; the federal patent office is bulging with grants giving the developer an opportunity to demand of the consuming public his "pound of flesh," while better business bureaus are organized in every city to protect the buying public from being gutted by pirates of industry. The medical profession would be ill at ease if such an industrial pattern were forced upon it; it prefers to maintain the age-old relationship of physician and patient to the twentieth century relation of coal magnate to the miner or a steel magnate to the puddler. The progress of medicine has been marked by the milestones of discoveries and developments of isolated workers who are content to give their accomplishments to the medical profession for common usage and find their reward in mere recognition of a pioneer service. There is always maintained a race between an ambition to find a new truth, a newer method, and an eagerness to publish them for the benefit of

*Full Report Filed in Library of the Jefferson County Medical Society.

the whole profession. If in this intense search for new facts and true explanations and better methods some worker is sacrificed, his name is merely added to its roll of unsung heroes already rich with its Reads, its Lazears, its Carrolls.

Business is competitive; medicine is fraternal. Business advertises; shall medicine adopt the methods of business? This has been done by the proprietary medicine people and made profitable indeed. The physician is not a business man; the business man is not a philanthropist. Cushing recently wrote:

"Why should the doctor refrain from forcible collection of his unpaid bills; why does he not patent some of his prescriptions, inventions and discoveries; why should he continue to counteract the spread of diseases he has painfully and at great educational expense learned how to diagnose and treat; why he should strenuously oppose year after year the efforts of antivivisectionists with their Christian Science allies to cripple research and annul statutes; and why he should at the same time continue to work longer hours for less pay during a shorter life of activity than most people—is an interesting enigma to a hardheaded business man."

That Medicine has been included in Economics is further evidenced by the effort of individuals and agencies under lay control to fix the value of medical service, set up the methods of its functioning, control the choice of the physician by the sick and inject competitive business methods in professional relations. They would substitute the disgraceful and discredited methods of commercial salesmanship for the profession's code of ethics; they would create a selling organization which as a "middle man" appropriates a part of the pay for medical service; they would sandwich these agencies between the producer, here the physician, and the buyer, here the patient, and nullify personal responsibility on the one hand and human relation on the other; they would substitute for knowledge and skill and kindly interest of the physician the "ballyho of the commercial salesman;" they would substitute a robot for a man.

SECTION III.

Preliminary Report of the Committee on Medical Economics, Jefferson County Medical Society

To the President and Members:

The Committee on Medical Economics respectfully submits as a report of its activities for the current year (1933) the following:

The Committee recognized at the outset that it must rely upon one of two sources of assistance in compiling data, (a) paid workers, (b) voluntary assistance from the membership. Obviously, the first course was not feasible; the second was adopted and the results were gratifying.

Sub-Committees were set up by the selection of Sub-Committee Chairmen who, in turn, created the members of the Sub-Committees. The Committee on Medical Economics desires here to express its sincere appreciation of the invaluable assistance rendered by these groups.

Soon after its organization the Committee realized the impossibility of making a satisfactory study during the first year of all the questions covered by the scope outlined in the Resolutions proposing the creation of a Committee on Medical Economics. It was decided to select a group of subjects thought to be of most importance and give this group first consideration.

This group has fallen into two classes:

(A) Those which have been studied sufficiently thoroughly to warrant some conclusions and, in a few, some recommendations. In this group are found:

(a) City Hospital.
(b) Public Health Agencies.
(c) Extra Mural Clinics.
(d) Government (Federal) Hospitals and Veterans Bureau.
(e) Hospital Costs.
(f) Hospital and Health Insurance.
(g) Nurses and Nursing Problems.
(h) Physicians' Income.

(B) Those subjects that have been designated as of a degree of importance to warrant early study; some of these have not yet been reached; others are being studied and data accumulated, but are yet unfinished.

In this group are listed:

(a) The Cost of Drug and Sick Room Supplies.
(b) The Cost of Dental Care.
(c) Industrial Medicine and Compensation Laws.
(d) Tuberculosis Hospitals and Clinics.
(e) Health Insurance.
(f) An Analysis of Various Plans for Care of the Indigent and Nearly Indigent
(g) Part-Pay Plan.
(h) Bureau of Rating and Credit.
(i) Revision of Food and Drugs Act.

Some comment on this latter group is necessary in order that the Society may be informed of the Committee's plans for next year.

(a) The Cost of Drugs and Sick Room Supplies:

The Committee experienced no little surprise when it approached a survey of this field to learn from the druggists that it was wellnigh impossible to get even reasonably near accuracy in cost figures on drugs and supplies for the sick room. The druggists were not unwilling to cooperate and those approached agreed to get such figures as were possible. They all agreed that owing to methods of bookkeeping there would be a great difficulty in separating patent medicine sales from proprietary medicines; that sick room supplies could not be segregated easily from sales of toilet articles; that even prescription sales would prove difficult because of refills.

The Committee on the Costs of Medical Care after five years study and an expenditure of one million dollars gave, as a part of its factual data, the statement that the American public spent annually for drugs 715 millions of dollars, over fifty per cent of which is spent for patent medicines. In terms of a "medical dollar" this equals 18.2 cents of each dollar spent for medical care. A healthy skepticism as to the accuracy of this data was discovered in your Committee after interviewing a number of local druggists and a letter of inquiry was sent to Mr. Nathan Sinai, who was a paid employe of the Committee on the Costs of Medical Care and who also was employed as Director of Study by the Michigan Committee on Survey of Medical Services and Health Agencies. Mr. Sinai was asked in that letter to tell your Committee how the figures were arrived at. His answer follows:

"University of Michigan.
Division of Hygiene and Public Health.
Ann Arbor, Michigan.
September 11, 1933.

"Medical Economics Committee:

* * * * * * *

"In certain of the local studies made under my direction the method of determining the costs of drugs was through a detailed study of all the drug stores operating in the areas surveyed. As you might judge, this is a tremendous task requiring a good deal of field work. For example, in San Joaquin County, California, it was necessary for the drug stores to keep complete records of the days' sales over a period of time. This was the only way to divide their gross income into the proper divisions of prescriptions, patent medicines, et cetera.

"In view of the fact that the results of these studies in other parts of the country show a good deal of conformity, do you not think that it might be possible to make a study of the gross expenditures, by the public, in drug stores and then divide these expenditures according to the percentages developed in other surveys? Admittedly, this would give you a rather rough idea of the costs of drugs and medicines, but I think for your purposes such data would be ample.

Sincerely yours,
"(Signed) N. Sinai."

A dependable survey was conducted in St. Louis in 1932 by the U. S. Department of Commerce. Months were spent by Government experts in accumulating data which may be accepted as facts. They found that the prescription department makes about one-fifth the total sales of the average drug store; that prescription prices varied too much in different stores; that every third prescription called for an ingredient not carried in stock by the average store; that the average cost of a prescription to the patient was 92 cents; that the average investment in the prescription department was Eleven Hundred dollars and that the variety of ingredients called for by the doctor in the prescription was in direct ratio to the number of doctors writing them rather than to the volume of business. The conclusion is inescapable that we physicians are largely responsible for the high cost of prescriptions.

(b) The Cost of Dental Care:

The Committee has contacted the Jefferson County Dental Society and finds it is studying the Cost of Dental Care in the city. It was thought to have been possible to secure the estimated cost of dental services for 1932, but the Dental Association reports that the collection of data has been unexpectedly slow, hence this item finds a place in the group of unfinished studies.

(d) Tuberculosis Hospitals and Clinics:

The Committee on Tuberculosis Hospitals and Clinics has much data yet to obtain, due, largely, it is thought, to conditions which will soon be removed. This study is being continued and the following preliminary report filed:

Report of the Sub-Committee on Tuberculosis Hospitals and Clinics:

"In prefacing the report of the Sub-Committee on Tuberculosis it should be said that we find a situation somewhat unique in that there is probably no other single disease in which there is so much general sentiment in favor of a broad Public Health attitude. This sentiment is supported by the fact that tuberculosis is curable in a very high proportion provided it be discovered early; and is preventable,—provided every open case be isolated and its sputa and excreta properly disposed of. Theoretically then, if everyone were examined, fluoroscoped and tuberculin-

tested every few years, and every active case be placed in sanatoria until cured—in a few decades there should be no more tuberculosis. But inasmuch as such a drastic plan is impractical under our existing scheme of civilization, it is only fair that there should be a greater degree of cooperation between public health officials, tuberculosis clinics and hospitals and the private practitioner.

"There is no reason why tuberculosis cannot be diagnosed by the physician in private practice when the cost of the proper investigation can be met by the patient. In our own locality there are ample high class clinical and radiological laboratories, and while not every general physician is familiar with the technique and interpretation of the tuberculin test, this can be acquired with little difficulty.

"Likewise tuberculosis can be treated at home by the practitioner. We do believe that these should be selected cases in which (a) the disease is not far advanced; (b) the co-operation and discipline be good; (c) the economic level sufficiently high to support proper food, nursing, etc. If the case be severe or the co-operation or environment in the home be bad, there are private hospitals with rooms or wings set aside for the tubercular.

"*The fact that one has tuberculosis should not automatically place one in the position of being a charge upon the state.*

"The Board of Tuberculosis Hospital has thus far delayed answering the questionnaire prepared by this committee. So in this report we are forced to make our deductions from their formal report, which falls somewhat short of the data desired.

"This study done by this committee has been divided as follows: (1) Sanatoria—Hazelwood, (State), Waverly Hills (Louisville and Jefferson County); (2) Board of Tuberculosis Hospital Dispensary at 255 East Chestnut Street; (3) Public and Parochial School work by collaboration of Louisville Tuberculosis Society and Board of Tuberculosis Hospital Dispensary and City Health Office.

SANITORIA

"HAZELWOOD: The State Tuberculosis Sanatorium known as Hazelwood, situated a few miles south of Louisville, is operated by the Commonwealth of Kentucky, supervised by the State Board of Health. There is free maintenance supplied by the State for 12 patients, others pay at the rate of two dollars and eighty-five cents ($2.85) per day. The average occupancy is the capacity—namely, fifty-six. The residence limits pre-requisite for admission is one year in Kentucky for free beds, otherwise there is none if vacancies exist and patient can pay the rate of $2.85 per day. The State Tuberculosis Sanatorium at Hazelwood is an excellent and well run institution suffering at present from paucity of funds, as are other State institutions. Its patients are usually not from this community.

"WAVERLY HILLS: The Waverly Hills Sanatorium conducted by the Board of Tuberculosis Hospitals is situated south of Louisville at Pleasure Ridge. It is a tremendous institution—thoroughly modern, well equipped and in every way a credit to the community. It is maintained by the City of Louisville and the County of Jefferson, its funds are obtained, of course, principally by taxation. In 1932 the Board of Tuberculosis Hospitals received $220,272 from the City of Louisville and $268,908 from Jefferson County. Its total receipts (other sources included) were $530,638 and its disbursements $552,635.

"The average number of patients is about 477 and the average number of employes 234, and the per capita cost of maintenance is $2.16 per capita total population. (For further details see yearly report.)

"The administrating board is selected by appointment, the appointees being approved by the City Director of Health and a judge of the County Court.

"RECOMMENDATIONS: It occurs to this Sub-Committee to recommend that, inasmuch as many patients are admitted who could well afford to pay the per capita cost of maintenance ($2.16) per day and not a few who could pay considerably more, that there should be an arrangement for doing this. A fair sized sum might be raised in this manner which would relieve to some extent our overburden taxpaying community. There have been in previous years a few paying patients at Waverly, but this has been discontinued by the authorities because they considered paying patients subversive to the Sanatorium discipline.

"Another point this sub-committee wished to suggest has already been put into effect by the Board, regarding the admission of patients not residing in the city or county. A recent ruling of the Board declared that such non-residents are not eligible for admission.

"DISPENSARY: The Board of Tuberculosis Hospital maintains a dispensary at 235 East Chestnut. It is a well equipped and well managed unit wherein 2,138 new white patients were examined in 1932 and 415 new colored patients. Its nursing staff made in one year 7,511 nursing visits and 8,268 instructive visits. There is apparently no attempt made to determine the financial responsibility of those appearing at the dispensary for examination.

"The Medical Staff of the Dispensary, partly under the auspices of the City Health Office and partly under that of the Louisville Tuberculosis Association in the Public Schools of the City, did 3,368 tuberculin tests on white children and 571 on negro children. These children were further investigated by x-ray as follows: 667 white children and 363 negro children.

RECOMMENDATIONS: This sub-committee finds a sharp clash between the two viewpoints in the activities of the dispensary and does not attempt to make any decision. Obviously the broad public health principle under which the dispensary is conducted encroaches upon the presumed rights of the private practitioner.

"It is suggested that an economic limitation be placed upon clinic admissions as certainly many of its patients go there primarily to shirk the financial responsibility of the examination. Social service investigation and imposing fees upon those able to pay them would (1) send a few back to the regular physicians and (2) create a fund of money which might lessen the taxation.

"Regarding the work done upon the school children of this city. This has been regarded primarily as a demonstration and the statistical results are interesting and of value. However, further continuation of the school work can no longer be considered demonstration and here again arises the sharp clash in interests.

"LOUISVILLE TUBERCULOSIS SOCIETY. The Louisville Tuberculosis Society, which has been responsible for the Tuberculosis investigation of children in our Public and Parochial schools is at present a unit of the Community Chest. Its funds are derived partly from the annual sale of Christmas Seals and partly from the Community Chest. It is the local unit of a parent national organization from which it gets its literature and working scheme. The work of this organization may be considered almost wholly educational and its fostering of the work in schools and in industrial clinics is fundamentally with the purpose of educating uninformed people. The same conclusion obtains again under this section, namely, that further extension of the school work can no longer be considered demonstration.

(Signed) Harry S. Frazier,
Chairman.

Members: Chas. D. Enfield
Arthur T. Hurst."

The Committee on Medical Economics refrains from comment on the Tuberculosis problems as they touch private practice and the public purse at the present time further than to register its disapproval of the attitude of the Board of Tuberculosis Hospital toward furnishing the data requested in the questionnaire presented by the Sub-Committee. Also, to indicate the conviction that the present activities of those associated with tuberculosis work in the City and County constitute a serious problem touching the interests of the medical profession as well as the tax-paying public.

(e) HEALTH INSURANCE

Health Insurance to the extent it encourages self reliance has a place in Medical Care. It was assigned to the Sub-Committee on Hospital and Health Insurance. It reports that the study on Health Insurance has not been completed, but gives a preview of next year's work as follows:

REPORT OF SUB-COMMITTEE ON HEALTH AND HOSPITAL INSURANCE

"Your Sub-Committee on Health and Hospital Insurance respectfully submits the following report on its study of Health Insurance:

"Your sub-committee in addressing itself to the above phase of its assignment is unable to find that there is locally any definitely organized plan of Health Insurance in operation other than that furnished by certain fraternal organizations, which is inconsiderable. Your Committee, in the absence of firsthand evidence for observation has sought information elsewhere. We have found a most comprehensive resume of the subject in a report made by the House of Delegates from the Michigan State Medical Association. Our observations are inspired principally by this report, from which we also make some direct quotations:

'Health Insurance may be defined, simply, as a project to equalize the burden of costs arising through illness. It attempts to level this burden by attaching a definite meaning to average costs so that such averages will constitute the exact costs to a family or individual rather than conceal extremes of high or low costs.

'With this object in view a group of individuals (consumers) contribute a sum of money at regular intervals to a central fund. The money so pooled is used to pay the costs of illness incurred by any member of the group. Thus, through the application of the principle of mutual aid each individual knows what will be his costs of medical care regardless of whether he needs much or little service.

'Methods of compensating those who provide medical service vary in different countries, but, in general, three methods prevail. The first is by payment on the basis of a medical service a stated amount, according to a fee schedule, for each service furnished to

an insured person. The second method, followed in England, is that of payment to the physician of an annual fee per insured person. In this system the insured person chooses his physician and the physician receives a monthly or quarterly fee regardless of the amount of service required by the patient. The third method is that of salary payment on either a part time or full time basis.

'In almost all of the systems the insured group is limited to those individuals with incomes below a stated amount, and physicians may engage in private practice among the insured. Where the physician receives this fee on a per capita basis, the services to be provided are those of the average general practitioner.'

"The above comprehensive quotation defines Health Insurance as the public and the medical profession conceive it. There have been for many years 'small-scale' examples of one or another of the three methods outlined, the 'sick benefit fund' maintained by some large employe groups being an instance.

"Your Sub-Committee believes that the question of Health Insurance is much more intricate than that of Group Hospitalization; that a definite and positive attitude for or against any plan cannot be taken until such plan begins to materialize in our community and its nature, type and possible dangers to the ethics and integrity of the profession can be studied and observed. We believe that an ideal plan could be formulated in the theory, but that such plan could be launched, and always controlled, by the organized medical profession or that profit-seeking interests outside the profession could be kept out is questionable. We feel sure that the larger and more densely populated sections of the country, containing a larger percentage of the semi-indigent and low income group, will first attack the Health Insurance problem and will have, in their experience, worked out the advantages and disadvantages of the plans, so as to furnish for such communities as ours a much greater mass of data than is now available.

"We quote again from the Michigan report:

'It is apparent that the same causative factors that obtained in other countries and led to health insurance are operating in the United States. Many forms of social insurance are being widely considered and in some areas have been adopted. Health Insurance plans are being discussed not only by medical organizations, but by groups interested in its business and profit possibilities. It is the latter influence that frames a definite danger to medicine and the public.

'The Committee views health insurance as a movement that makes possible a wider distribution of medical service and at *the same time offers possibilities for the reduction of medical indigency.* One may well ask: Among all the plans for the care of the indigents, what has been done to stop the malignant growth of social dependency? Are the poor not only to be with medicine, but eventually to engulf medicine? Is it not probable that small regular sums paid to a central fund will eliminate from medical indigency many now dependent upon the beneficence of a physician or a public clinic?'

"The House of Delegates of the Michigan State Medical Association closes its report, from which we have quoted freely, with the following recommendations:

'1. That The House of Delegates approve the principle of health insurance.

2. That the Committee on Medical Economics be directed to prepare and present, for the approval of the House of Delegates, a plan or plans for health insurance; provided, however, that such a plan or plans shall be based upon the following policies:

(a) Free choice of physician by the insured.

(b) The limitations of benefits to those of medical service.

(c) The control of medical service benefits by the profession.

(d) The exclusion of individuals or organizations that might engage in health insurance for profit.'

"Your Committee, considering the local status and conditions suggests the following:

"That a policy of 'watchful waiting,' of vigilant and alert observation be maintained toward any plan of Health Insurance that may intrude itself in our community; that at such time such plan may be studied for the approval, modification or condemnation.

"The only alternative seen by your Committee is an attempt to formulate a plan from within the ranks of the profession and under the auspices of the Jefferson County Medical Society, which is now not deemed feasible nor advisable.

Respectfully submitted,
Guy Grigsby,
M. J. Henry,
Herman Humphrey,
J. M. Kinsman,
W. Hamilton Long,
D. Y. Roberts,
H. H. Hagan, Chairman."

The Committee on Medical Economics is in accord with the conclusions of the Sub-Committee. It senses, however, some sodium chloride should be convenient when digest-

ing the Report made to the House of Delegates of the Michigan State Medical Association. The Director of Study for the Committee was Mr. Nathan Sinai; this is the same Mr. Sinai that labored for the Committee on the Costs of Medical Care. Knowing his predilections we feel that when definite recommendations are made by the Committee finally that the profession will find a Trojan horse inside its gates.

Sickness insurance in Europe has been flavored with politics almost uniformly. In most instances its establishment was accomplished without the aid of either the patient or the physician. It had its origin in Great Britain as one of Lloyd George's political activities. It was started in Germany by Bismark to whip the Social Democrats and purchase advantages for his government.

Another difficulty with this sort of insurance lies in the impossibility of measuring the risk by an actuarial yardstick. Hence, whatever cost is agreed upon will be far from accurate. We fear that the primary idea alleged to be behind the idea of sickness insurance, viz., mutual financial relief, will ultimately be lost in a superstructure of a governmental or a national medical service which will employ the physicians and direct their functioning. We fear that lay officers will head these insurance services and physicians will be merely employes.

Finally, we believe that such insurance will surely increase morbidity; the tendency to try to get sick will supplant the tendency to try to get well.

GROUP A. SUBJECTS THOSE WHICH HAVE BEEN STUDIED SUFFICIENTLY THOROUGHLY TO WARRANT SOME CONCLUSIONS AND RECOMMENDATIONS

(a) The Professional Activities of the City Hospital and an Analysis of Its Budget, 1932

The data obtained for the basis of this study was obtained by means of volunteer service of the Sub-Committee selected to make this study and from the Hospital's annual report. Since the Report is based on the period of the City's Fiscal Year, the data to some extent does not cover the year 1932, but the period from September 1st, 1931, to September 1st, 1932.

The Sub-Committee included a member of the Staff in each department of the professional service, who, in turn, assumed the responsibility of compiling information. The information was secured through questionnaires covering each Department or Service. The records, while not complete, are adequate for the purposes of this study.

The Louisville City Hospital was built in 1913 out of the funds provided through a bond issue at a cost of $942,000.00. It was built and is intended to be operated as a general hospital for the professional care of the indigent sick of the city. The County has no interest in the building and when the County's indigent sick is cared for in the hospital such care must be financed by the Fiscal Court of the County. The general management of the Hospital is under the direction of the Head of the Department of Health and the cost of its maintenance is borne by taxation. For the year 1932, 10½ cents of each dollar collected as taxes was allotted to the Hospital. 13.5 cents was the tax rate assigned to the Department of Health for the fiscal year ending August 31, 1932. This rate is divided so that approximately 10.5 cents goes for maintenance of the Hospital and 3 cents to the other activities of the Health Department.

The professional care of the patient personnel of the Hospital is delegated, by agreement, to the Staff of the Medical School, University of Louisville, the University assuming some of the maintenance cost so far as staff salaries and laboratories go. This arrangement makes the hospital a teaching institution and makes its patients and facilities available for teaching medical students, of whom approximately 90 are graduated annually.

The Sub-Committee on Public General Hospital Service filed with your Committee the following report:

Report of the Sub-Committee on Public General Hospital Service

"Your Sub-Committee on Public General Hospital Service wishes first to express its appreciation for the wholehearted support given us in securing this data by the Health Director, Dr. C. H. Harris, Superintendent of the Hospital, Mr. Ernest Shouse and others connected with the hospital service.

"The records as far as kept were open for our inspection and study. This study comprised every branch of the service and while there are a number of questions in each department questionnaire unanswered, we found in the majority of cases due to absence of any record kept on that particular patient, or as you will note there was a repetition of the same question found on the blanks where the answer on one covered the entire series.

"While our conclusions appear rather voluminous we feel that the general brief consideration of certain subjects will be of much aid to your committee.

"In the study of the different questionnaires the Social Service appears to be the

cause to a greatest extent of the breakdown. With the enormous amount of work put on it and the limited personnel, very little more than a routine line of questions or casual history of family and finances can be carried out.

"Dr. Ed Speidel, a member of our committee, has secured for our information a letter from the General Hospital, Cincinnati, which we will file with our report, and it will be noted that their problems are similar to ours. You will note there the investigation of patients is carried on by field workers, also reports by family physicians. This method would, we are sure, overcome a great deal of criticism by local physicians.

"In the Out-Patient Department we find many cases do not pay for medicines or service. Patients are not refused service on account of non-payment.

"We would recommend this rule remain as it is, for medicine can be secured if needed. If free medicine were to be offered to all we believe the experience of all physicians at one time connected with clinics would show that many chronics and habitual attendants would secure medicine and waste or throw it away

"While we feel the X-ray Department is possibly being imposed on to some extent, it is difficult at the present time to make any recommendations on that branch of the service.

"It was found the attitude as related to indigent cases that of assistance and service, but the enormous number of cases applying for medical attention demonstrates that our facilities both as to assistants and floor space are far inadequate to care for all in a scientific manner. A visit to the Out-Patient Department any morning will demonstrate this. We therefore recommend that some steps be taken by the Society to give the Out-Patient Department the much needed relief.

"Although the Out-Patient Department may be taken advantage of by some able to pay a fee to his physician, the percentage is so small that it amounts to practically nothing.

"However, some patients do get in the house for Elective Operative work who are able to pay a small fee; it is thought that our recommendation as found under Social Service would reduce the number to almost nil.

"It is suggested that a patient coming into the house for elective work could be made to sign a certificate to the effect that they had lived in the city for a certain length of time and were not able to pay.

"A more minute statement on practically each division is attached for your study."

Chas. W. Hibbitt, Chairman.

QUESTIONNAIRE
(1932)
Louisville City Hospital
General Information

Pay of Internes?

Residents	$60.00 per month
Ass't Residents	25.00 per month
Senior Internes	15.00 per month
Junior Internes	10.00 per month

Total number of Admissions in respective Services?

Admissions not classified according to service last fiscal year. Such classification begun September, 1933.

Bed capacity of respective services?

Female medical, white	30 beds
Female medical, colored	30 "
Male, medical, white	29 "
Male, medical, colored	30 "
Female surgical, white	30 "
Female surgical, colored	29 "
Male, surgical, white	30 "
Male surgical, colored	29 "
Female psychopathic	15 "
Male psychopathic	15 "
Obstetrical Ward, white	22 "
Obstetrical Ward, colored	22 "
Obstetrical Nursery, white	22 bassinettes
Obstetrical Nursery, colored	22 bassinettes
Isolation	50 beds
Baby Ward, white	31 "
Baby Ward, colored	31 "
Total	467 "

Cost per patient per day? $3.11

Total patient bed days?

From Sept. 1931 to Sept. 1932 146,059

Number of ambulance calls?

From Sept. 1931 to Sept. 1932 5,010

Number of patients brought to hospital by private ambulance?

Answer not obtainable.

Are pay patients admitted? No

Are charges made for any service? How collected?

A charge of 25c is made for clinic visits if patient can pay; a charge of 10c is made for each prescription filled if able to pay; a charge of $3.00 for an x-ray is collected when possible.

A charge of $1.00 for each County patient visiting dispensary.

Disposition of such funds?

Turned in to City Treasurer.

Cost per patient in dispensary?

There is no way of determining actual cost.

How are "Industrial Cases" handled?

When working under Workmen's Compensation Act, demand for payment is made of Insurance Company. When possible cases are transferred to private hospitals.

How many County patients admitted in 1932?
Sept. 1932 to Sept. 1933 689
Total number of bed days for county patients? 6,147
Amount collected from County in 1932?
Sept. 1931 to Sept. 1932 $17,146.80
Total admissions from County for each service?
Surgery—315; Medicine—95; Mothers and babies (Obstetrical)—94; Isolation—26; Pediatric—131; Psychopathic—28.
Total admissions to City Hospital? 11,436

General Information

The total bed capacity of the hospital is 467, about equally divided for white and negro patients, since segregation is maintained. There is also about equal division of beds in medical and surgical services. An isolation service is maintained after a fashion. 11,436 patients were admitted and the total patient bed days during the year was 146,059. The percentage of bed occupancy was 85 per cent, which is too low. An ambulance service is maintained and 5,010 runs were made. No record is kept of patients admitted from police cars, private ambulances or who walk in. It is stated that pay patients are not admitted, but patients able to pay sometimes are. A minimum financial income has been established at $1,000.00 per year, with $125.00 additional for each dependent. No very dependable criteria are available for determining a patient's eligibility, since the social service is inadequate. No charge is made for professional service, either surgical or medical, but a charge of twenty-five cents is collected when possible for each visit to the dispensary and a charge of ten cents for each prescription is also collected when able to pay. $3.00 is charged for x-ray studies under the same conditions. Each County patient who visits the dispensary is taxed $1.00 and the County pays a per diem for residents admitted for care. A total of $17,146.80 was collected in 1932 from the County. Funds thus collected are turned into the City Treasurer.

The Internes are paid; the Residents draw $60.00 per month, the assistants $25.00, the senior Internes $15.00 and the junior Internes $10.00 per month in addition to maintenance.

The cost per patient per day was $3.11. The annual expenditure was approximately 455 thousand dollars. There were 966 deaths during the year and 1,122 births.

There is an oft repeated statement that the institution is overcrowded and the personnel inadequate. The food is purchased through the City Buyer. The building owns and operates its heating plant. We quote from the Sub-Committee's report on the Out-Patient Department:

Out-Patient Department

"Interviews of doctors in the Out-Patient Department show that they feel the patients in the dispensaries are eligible for charity except for few exceptions, these exceptions being mostly patients trying to enter the house for elective surgery and obstetrics. Dr. Gardner's recommendation that the superintendent appoint a man to investigate the financial status of obstetrical and non-emergency surgical cases was highly approved. This would tend to exclude fortunate people who can finance themselves and make more places in the house and in the dispensary for true charity cases. The beds in the hospital have been filled into the halls for several winters, but now the deluge of patients into the clinics has swamped the staff so that there has been placed an artificial arbitary limit in the number of cases to be admitted to several clinics. This necessity can in part be overcome by the appointment of more medical, surgical and obstetrical assistants, but not entirely, as each clinic has become more and more cramped for space. Ingenuity has made the morning medical clinic space serve for the eye, ear, nose and throat clinics in the afternoon, but each compromise utterly fails when this space is too small to admit the patients of either clinic and almost half of them are sent away to await a clinic on another day.

"It is clearly demonstrated that increased dispensary space is needed when the existing physical plant actually fails to care for the city's sick poor. For some time the staff of the City Hospital has been expecting a new dispensary building. The particular tragedy of the City Hospital is Isolation. It is the city's and county's pest house. It has housed leprosy. It contains measles, scarletina, erysipelas, whooping cough, chicken pox and fulminating cases of syphilis, also diphtheria. One would imagine this would be a large building so arranged that this terrible array of diseases could be kept free from cross infection. It should be, but this Pandora's box consists of only fourteen rooms and twenty-eight beds and no disease is really isolated, so that a victim entering with one disease usually acquires other diseases in this miserable place of cross infection. It has no operating room, so that the operating rooms in the main hospital have been compromised by these cases in operative complication. The staff feels, has felt for years, that isolation is a disgrace to the city and a menace to a great many people, most of them babies.

Compensation Cases

"Problems:

I. The bringing of compensation cases to the Hospital.

II. The admission of such cases into the Hospital or dispensary and the disposition of patients after they have been admitted to the hospital.

"Discussion:

I. The Bringing of Compensation Cases to the Hospital.

(a) The majority of such cases are brought in by the patrol.

(b) The patrolmen say they have no way of knowing the financial status of the injured victim.

(c) The private hospitals are unwilling to accept accident cases that are unable to pay for service received.

(d) Some of our private hospitals do not have available a resident staff for handling emergency work.

II. The Admission of Compensation Cases into the Hospital and the Disposition of Same.

Present method of handling compensation cases in the Louisville City Hospital is as follows: The clerk at the admission desk is supposed to get the information from the patient and send the information to the Superintendent of the Hospital. The Superintendent, in turn notifies the Social Service Department. The Social Service Department gets in touch with employer and makes arrangements for sending patient to private hospital.

Our survey shows that the system has fallen down mainly for the reason that the workers concerned are overburdened with other duties and this phase of work is neglected.

"Recommendations

The Sub-Committee feels:

I. Compensation cases should not be brought to the Louisville City Hospital.

II. The patrolmen should be instructed to bring only the city's poor to the City Hospital. We realize the weaknesses of this request. However, if the patrolmen are given a list of the firms in their districts that are carrying Workmen's Insurance, and the name of the hospital used by said firm, this problem would be less acute.

III. The Social Service Department in the Louisville City Hospital should be responsible for detecting in the hospital patients that have Workmen's Insurance and for transferring such patients at the earliest possible moment to a private hospital. We estimate that it will take in the beginning two social service workers to do this work.

Record Room

"For the past ten years the hospital has been using the so-called Presbyterian Hospital of New York method of filing cases. This method was adequate in the beginning, but in the past three years the hospital has outgrown such a system, and we recommend the installation of the new system, 'Standard Classified Nomenclature of Disease.' It will cost not more than $600 and one additional worker."

Department of Internal Medicine

The visiting Staff consists of 36 physicians all of whom are teaching in the Medical School. There is one full-time member, whose salary is $7,820.00 per annum and three part-time members who are paid $4,554.00. The other 32 serve on a no-pay basis. The part-pay members maintain private offices in the city and engage in private practice.

There are but two staff conferences held during the year, though weekly conferences are held with the Residents and Internes.

The bed capacity of the medical service is 120 and there is but a 50 per cent occupancy. A total of 1,854 cases were admitted during the year, with a total of 23,675 bed days and an average of 12.7 days in the hospital. 512 cases were discharged as unimproved and there were 376 deaths. A general diagnostic study is done on each case. Prophylactic treatments for rabies, typhoid, scarlet fever and diphtheria are not given.

There were 138 post mortems held in the Department during the year; these were complete. Only the residents and house staff are notified. No yearly digest of the work of the department is published.

A cardiological service is maintained and 990 electrocardiograms were made during the year. Cardiograms are made for the dispensary and ambulatory cases (not from dispensary) are accepted for study. No charge is made for cardiographic study. A physiotherapy service is not maintained.

Department of Pediatrics

Staff Personnel:

There is a staff of 9 visiting doctors, 2 residents and 3 internes.

Of the 9 visiting staff, 1 is a full-time member with a salary of $2,910.00; 2 are on a part-pay basis at a salary of $792.00 each; the remaining 6 serve on a no-pay basis. The all-time member renders no service outside the Hospital; the Residents are paid $125.00 and $50.00 monthly, respectively. These members are selected by the Hospital Execu-

tive Committee and serve from 1 to 3 years, they function under the direction of the Visiting Staff. One of the Internes is paid $15.00 and the other one $10.00 monthly and maintenance. They serve from 1 to 4 years and are selected by the Hospital Executive Committee, but function under the Visiting Staff.

Staff conferences are held weekly. Promotions are recommended by the Chief of the Department.

Patient Personnel:

The bed capacity is 120, with an occupancy of 28,244 bed days or 70 per cent. The total admissions for 1932 were 2,224; this includes newborn and contagious cases. Nearly all of the cases came from the city—the exact figures were not made available. The average bed days for all patients was 12.7. 1,378 were discharged "improved" and 649 "not improved." The total deaths were 197.

No dependable data was made available as to the economic status of the patient personnel, but it is stated that the same standard of financial independence obtains in this service as elsewhere in the Hospital.

The age limit of patients admitted to this service is 12 years. A report is made to the responsible member of the patient's family, but it is not stated how this report is made. No record is kept of the number of patients admitted from the dispensary nor of the percentage leaving before a diagnostic study is completed. The patients are not visited by Staff after discharge. An Isolation ward is maintained and segregation of different transmissible diseases attempted. The Department staffs an out-patient service. No extra-mural clinics are maintained by the Department.

Professional Data:

Clinico-pathological conferences are held. There were 68 post mortems in 1932 and it is stated the staff is notified. A yearly digest of the work of the Department is published, but it is not stated where or by whom financed.

68 cases of Tuberculosis were admitted; tuberculin tests are done on all patients, but no data is available as to the number positive; the Mantoux is the preferable method; all cases are x-rayed; no epidemiological work is undertaken. Five deaths occurred during the year.

85 cases of scarlet fever were admitted, with 3 deaths, the result of toxemia and serum reaction; Dick tests are not regularly done; the quarantine period is arbitrarily fixed at 28 days.

67 cases of diphtheria were admitted; no case developed in the hospital; there were 7 deaths, 5 due to myocardial failure and 2 to laryngeal involvement; Schick tests are not regularly done; 67 antitoxin administrations were done with a maximum dosage of 60,000 units and an average of 20,000.

2 cases of cerebro-spinal meningitis were seen and spinal punctures with serum given, both in doses of 200 c. c. every 24 hours; neither normal or convalescent serum is used. There were no deaths.

2 cases of tetanus were admitted. Neither had received a prophylactic dosage of serum and there were no deaths.

The Social Service is inadequate.

Department of Psychiatry

Information obtained from this department revealed that there are three members of the visiting staff, one of whom is a full-time man. The services of the latter are divided between the Louisville City Hospital and the Mental Hygiene Clinic, and his salary of $6,000.00 per year is paid by the Community Chest. There is one Resident in Psychiatry, rotating every six months, at a salary of $125.00 per month, paid by the University of Louisville, and three Internes at $10.00 per month, rotating from one to three months and paid by the Louisville City Hospital. This does not include the associated personnel of the Mental Hygiene Clinic, whose salaries are paid by the Community Chest. Other staff members of the department give part-time service and receive no pay. Student sections of both the Junior and Senior classes are used in the wards daily. They do histories, physicals, follow-up notes and attend staff conferences on patients. A limited number, elective, do some work in the Mental Hygiene Clinic.

The bed capacity of the psychopathic wards is forty and averages about 70 per cent occupancy. There were 541 admissions in 1932 with an average stay in the hospital of 12.7 days per patient. There were discharged as improved 337 patients; unimproved, 172, and there were 32 deaths. Number of autopsies credited to the department was not recorded. No department record was kept of those admitted from the city, county and state, or from other states, but a considerable number was admitted from Jefferson County and a small percentage from other counties of this state, with an occasional transient admission from other states.

Very few were admitted on a pay basis and the department has no record of those who paid, but they were usually emergency cases and either transferred to private institutions within a week or committed to a State Hospital. Staff physicians do not refer pay patients to the psychopathic wards for treatment, but an occasional case has been referred for diagnosis awaiting commitment to either a private institution or State Hospital. A

general diagnostic study is made of all patients who remain in the hospital for a sufficient time to complete the study.

Approximately 5 per cent of patients applying to the Mental Hygiene Clinic were admitted to the psychopathic wards last year, and of all the patients admitted to the wards about 40 per cent were committed to Lakeland. *Many are paroled from Lakeland after a relatively short residence there and come back to the psychopathic wards as readmissions.*

The nursing service on the psychopathic wards has been quite adequate for the past year, due to the fact that an average of three graduate nurses have been employed at a nominal cost, every four months, for special training in psychiatry, in addition to one graduate nurse in charge of the wards and the student assistants on rotating service.

The greatest handicap to the service in this department, next to its limited physical facilities for separation of patients and the need of some form of physio-therapy, particularly the use of continuous baths, has been the inadequate social service which seems to prevail throughout other departments of the hospital. The department should have at least one full-time psychiatric social worker assigned to the wards with no other clerical duties to perform. It would appear that the Social Service Department of the whole hospital has been badly handicapped by an endeavor to combine its special function of case work investigation with a lot of detailed clerical work which should more properly be within the province of the Superintendent of the hospital and his administrative staff. The Social Service Department has shown a willingness at all times to give such assistance to the Department of Psychiatry as its limited personnel would permit, and has in numerous instances rendered most valuable service; the principal part of the case work investigation has been done by the junior medical students assigned to particular cases for special study and who had the entire responsibility of getting all information that was available before the case came up for conference.

Department of Skin and Syphilis

Staff Personnel:

There are 6 members on this service, none of whom is on an all-time basis and none draw any salary. The members rotate on the Dispensary Service. The House Staff is included in the Internal Medicine service. No wards are allotted to this service, the cases are bedded in either the medical or surgical services.

Patient Personnel:

No data was given as to number of bed days nor number treated in the hospital. 962 cases were seen in the dispensary. There were no deaths. After discharge the follow-up becomes a matter of State Board of Health interest.

The Social Service is inadequate. No serious attempt is made to determine the financial status of patients in either the dispensary or in the hospital. Cases requiring Radium are treated in the Gynecological Service by the radiologist. 9,476 patients were given Salvarsan; a charge of 25 to 50 cents is made and an effort made by a State Board of Health worker to collect. There were seen 1,917 female and 1,915 male lueties in 1932. Of this number 2,467 discontinued treatment under one year. Some delinquents were quarantined by the State Board.

Department of Eye, Ear, Nose and Throat

The Department of Eye, Ear, Nose and Throat has a staff personnel of 16 visiting doctors, none of whom are on full or part-time service. The staff members rotate in the dispensary service. There is no resident house staff, neither are there any internes assigned to this service as a matter of rotation in the general house work. The department has no regularly assigned beds, hence no data can be given on bed occupancy. In 1932 there were approximately 1,325 patients admitted to the Ear, Nose and Throat service. No figures are given as to the number admitted to the Eye service. About 99 per cent of the cases admitted to the hospital came through the dispensary and it is reported that a "large" percentage left before diagnostic study was completed. About 832 tonsillectomies were done during the year. One death is recorded. A total of about 6,000 cases passed through the dispensary during the year.

A personnel of 8 members of the staff are on duty at the Clinic. Two of these are assigned from the Eye department and six from the Ear, Nose and Throat department. A small per cent is estimated to have been referred by physicians, the greater bulk having come on their own initiative. There is no charge for service rendered in the dispensary.

The opinion is expressed that more x-rays were ordered than careful clinical study would seem to warrant. The opinion is further expressed that some patients, the percentage not estimated, are admitted, to this service who are financially able to pay for such service. It is stated that no Compensation cases have been treated in the department, that the Social Service is wholly inadequate, that staff members are sometimes notified of post mortems and that no yearly digest of the work of the department is published.

DEPARTMENT OF OBSTETRICS

There are 6 visiting staff physicians; none of these are called all-time physicians; 4 serve for no pay, while 2 draw salaries of $2,871.00 per annum. Staff conferences are held weekly. There are 2 residents in Obstetric service, one with a salary of $125.00, the other of $50.00 monthly. They are selected by the Hospital Executive Committee and serve for from one to two years. House staff conferences are held daily. Two internes are also assigned to this service with a salary of $10.00 per month each. The Hospital Executive Committee also selects this group.

The bed capacity of this service is 44, with nearly 100 per cent occupancy. In 1932 there were 873 whites and 646 negroes admitted for delivery. 1,451 were classified as normal deliveries, 981 as forceps cases and 130 operative deliveries. There were 129 fetal deaths and 12 maternal deaths, with a total of 71 autopsies, of which only residents and House staff are routinely notified.

1,237 of the admissions came through the clinic. A follow-up clinic is maintained, which is in charge of one of the part-time staff members.

There is little or no effort made to determine financial responsibility of applicants for admission. 39 per cent (508 cases) are delivered at home and no financial rating is attempted. An attempt at fee collection is made and such as are collected are used in the Obstetrical Department. The questionnaire concludes with the comment that "a small number receive the benefit of free service undeservedly."

DEPARTMENT OF GYNECOLOGY

This department has 12 Staff doctors, none of whom are on salary. 4 of these rotate on dispensary service. The visiting staff operated on 23.4 per cent of the surgical cases with a mortality of 2.1 per cent. The House staff rotates from the General Surgical service, the resident for 3 months and 60 days for internes. The bed capacity is not fixed, but averages nearly 50, with 90 per cent occupancy.

A total of 578 patients were admitted to this service in 1932, of which 543 were whites. A total of 19 deaths were recorded, a mortality rate of 2.1 per cent. 2 per cent had pulmonary complications and about 4 per cent were drained, while 8 per cent had syphilis. The County had 523 bed days during the month of December alone and $1,274.40 collected, these cases being admitted on authority of County Health officer. The average bed days per patient was 5 and a total of 380 operations were done. 145 of these were negroes. 20 per cent of the admissions came in as emergencies.

19 post mortems were held; the visiting staff is not routinely notified, hence no clinico-pathological conferences are held. 58 cases were referred for radium to the Radium service. The death rate was 2.1 per cent and the autopsy rate 57.

Patients are admitted who could pay for service both in the hospital and dispensary. There were 1,935 new cases seen in the dispensary during 1932. Less than 5 per cent were referred by a physician. A charge of 25 cents is made for registration in the dispensary. This fund goes to the City treasurer.

DEPARTMENT OF SURGERY

There are 25 physicians on the Visiting Staff of the Surgical Department. Two of these are listed as full-time surgeons with salaries of $10,356.00, and four part-time receiving $1,699,000 annually. The full-time render no service outside of the hospital, while the part-time members maintain private offices. Three of the staff members rotate in the dispensary. The visiting staff operate on 25.8 per cent of the patients that come to surgery, with a mortality of 8.2 per cent. There are four Residents on the Service; one is paid $125.00 and the other three are paid $50.00 monthly. They are selected by the Hospital Executive Staff; 74.2 per cent of the operations were done by the Residents, with a mortality of 13 per cent.

10 Internes are allotted to this service; 6 are paid $15.00 per month and 4 draw $10.00. They are selected by the Hospital Executive Committee.

The bed capacity of the service is 120 and 5,377 patients were admitted in 1932, with 285 deaths and an average of 12.7 hospital days per patient. Of those admitted 58 per cent had operative procedures done, with bronchitis developing in .037 per cent; .018 per cent had atelectasis and .042 per cent had pneumonia. A total of 881 major and 2,260 minor operations were done during 1932, with a mortality of 5.3 per cent. The heaviest service in this department is seen during spring months. 72 post mortems (25 per cent) were done; only full-time, resident and house staff members are notified. Students see some of these; no figures are available as to the number. There were 10 nurses on duty in the operating rooms and 22 on the wards, yet the statement is made that the nursing service is not adequate.

Investigations by social service workers of patients admitted to this service is described as "inadequate."

Industrial Compensation cases are admitted for first aid, though no contract exists between the hospital and industrial concerns. A charge for this first aid is made for these cases and collections attempted. A charge of $3.00 per day as a flat rate is made. No

information was given as to the disposition of these funds.

A total off 10,796 accident cases were cared for in the "accident ward" by internes and the full-time members of the staff. No information was given as to the disposition of these cases or as to whether any fees were collected and their disposition.

9,088 patients were cared for in the surgical dispensary, of which "inadequate" social service investigation was made. A charge of 25 cents was made for each admission; this fund goes to the City.

289 patients were treated in the Varicose Vein Clinic, with injections running from 1 to 35, at a cost of 28.5 cents per ampoule of sodium morrhuate, the agent used. The average duration of treatment was 3 months and complications developed in 70 per cent; 15 showed positive Wassermanns; 125 had bilateral and 150 unilateral ulcers. Cases are stated to be admitted who could secure services elsewhere. It is stated no fee is charged. The House Staff operates on 75 per cent of these cases.

Orthopedic Department

There are 4 visiting staff doctors in this department, all of whom are engaged in private practice and none of whom serve the City Hospital on a salary basis. It is reported that about 75 per cent of the operations done in the department are performed by the visiting staff. The percentage was not given, but it was stated that the mortality percentage was "very low." The house staff consists of one resident. There is no definite assignment of beds to this service, hence per cent of occupancy cannot be given.

The department maintains a personnel in the dispensary consisting of one staff doctor, two internes, one nurse and one social service worker. A fee is collected by the social service for certain orthopedic appliances, which is turned over to the Brace shop. It is estimated that about 95 per cent of patients require some sort of mechanical appliance.

The Staff of the department commented that the "dispensary service could be greatly improved if a full-time secretary could be secured. There should be a more thorough investigation made at the time of admission as to whether patient is covered by insurance or compensation of any nature."

The majority of questions listed in their questionnaire were left unanswered by this department.

Department of Genito-Urinary Diseases

A very few answers were given in this questionnaire. It was stated that the staff personnel consisted of 6 visiting staff doctors, one of whom is on part-time with salary, the amount of which was not learned. About 50 per cent of the operations done in this service are performed by the visiting staff. No estimate was given of the mortality rate. The house staff service in this department is under the direction of the general surgical service.

The Committee is obliged to conclude that there was manifest lack of cooperation in this service.

Department of Proctology

Only 13 questions were answered of the entire questionnaire covering this service. It was stated that there were 5 members in the visiting staff personnel, all serving on a no-pay basis. Three members of this staff rotate in the dispensary work. The house staff is included in the department of general surgery.

A total of 175 patients were seen in 1932. No yearly digest of the work of the department is published. There were a total of 682 cases handled in the dispensary.

The data given the Committee by the staff in this department cannot be classed as helpful in its study.

Department of X-Ray

This department is served by two staff doctors on a part-time basis at a salary of $3,500.00 annually. It is stated that there are no house physicians attached to this department.

Some 14,000 films were made during the year and the opinion was expressed that the cost of the x-ray department could not be reduced further.

The remainder of this questionnaire was not answered.

Department of Laboratory

There is a directing staff of 8, two of whom are on full-time service, with salaries amounting to $9.288.00. Six serve on part-time, with salaries aggregating $6,821.00. Two residents are assigned to the laboratory at an aggregate salary of $150.00 monthly. The members of the house staff are selected by the Hospital Executive Committee and all their time is spent in the laboratory. One interne is assigned to the laboratory at a salary of $15.00 monthly. He likewise is selected by the Hospital Executive Committee. The students of the Medical School are used in the laboratory as students only.

It is stated that the laboratory is not considered adequately equipped. 326 autopsies were held during the year, 81 of which were complete and 245 partial. This represents an autopsy study of 33.7 per cent of the total deaths in the hospital. About 2.7 per cent of bodies of individuals dying in the hospital were unclaimed.

A museum of interesting specimens is maintained. A total of 1,052 surgical speci-

mens were received from the hospital for study. The cataloguing of specimens and slides is not complete. No work is done for any of the state hospitals.

The following is a summary of the work done in the laboratory:

Autopsies:			
Complete	81		
Partial	245		
Total		326	
Surgical specimens received		1052	
Sputum examinations		1056	
No. positive for T. B. (approximately)			20%
Blood Cultures		1560	
No. positive (approximately)			10%
Wassermanns		16538	
No. positive (approximately)			18 %
Kahns		0	
Hinton		0	
Ascheim-Zondek Test		99	
Pneumonia Typing		96	
No. Type I			3%

Time required for report 4-18 hours.

(c) The Department of Health, City of Louisville

This service is the successor to the City Health office and in its present form began to function in 1929. Its head is called the Director of Health and is a physician The office is a political pawn and the Director is named by the Mayor. His salary is $5,000.00 per annum. He need not serve as an all-time officer; in fact, the present Director engages in private practice. The Director appoints, at least theoretically, the city physicians, the head of the laboratory at the City Hall, the Chief of the Milk Division, the members of the Tuberculosis Board and the physician Inspectors of the Public Schools.

No special training is required for any of these officers and the term of office is limited to the pleasure of the Mayor and City Physicians and others appointed by the Director serve at his pleasure.

The general duties of the City physicians are stated to be the "visiting of the poor." for which they are paid $200.00 per month each. It was estimated that each made 250 calls monthly. Most, if not all, of these physicians are really part-time employes, maintaining privates offices. Making only 250 calls, as an average, monthly, or 5 per day, there is left much time for private practice. When the compensation of the Director is considered, it would appear that some change in the set-up would be economical and more effective. All-time employes at some increase in salary would appear to be preferable. When the average income of physicians in the city is recalled, there should be little difficulty experienced in securing physicians at a salary of $3,000.00 a year; one such could easily do the work now done by two. This sort of work should prove interesting to a recent graduate; a large practice acquired at once with a competency and time for study. Cases proving difficult or serious could be followed into the City Hospital and further diagnostic study or treatment noted and profited by.

We feel, also, that the Director of Health should be an all-time employe. His salary is larger than that of physicians connected with the State Board who are all-time employes. His term of office should be fixed and political influence should play no part in his selection. No effort is made to determine the financial status of patients seen at their homes by the City physicians. There need not be any when the inmates of the Workhouse and the Almshouse are visited. Drugs and sick-room supplies for the sick seen by the City physicians are furnished by the City Hospital.

There were 5 physicians engaged in what is called school inspection. One is paid $2,400.00, two paid $1,380.00 and the remaining two $1,200.00: the latter are also Clinic physicians.

There are 13 nurses assigned to this work at a salary of $1,200.00 on a part-time basis. They had no special training when they were appointed. If a trained nurse worked 30 days each month she would make $1,800.00 annually and she would have to be on duty 12 hours daily.

An effort was made to determine how much of the examinations of pupils was done by nurses and how much by physicians, but this data was not given. It was stated that when a defect was noted there was no time limit fixed within which it must be corrected. The fact is that the City Health Department has no authority over pupils save requiring vaccination for small pox. The examination, or inspection, rather, is merely suggestive. All of the school inspection work is rendered free. This includes such tests as tuberculin, Schick, Dick. Much of this work is duplicated by the Tuberculosis group. The inspections are done hurriedly of necessity when one considers the number of children and the number of inspectors. The value of the inspection bears an inverse ratio to the speed with which it is done. Ridiculous reports are made, as every physician in private practice knows.

Under School Hygiene Division a large number of cases were attended that were neither communicable nor transmissible diseases, namely, flat feet, nail biters, under and over weight children, enlarged glands, thyroid cases, etc. Further, (under school hygiene division) we find correction of defective vision, tonsil and adenoid operations,

vaccinations, administration of toxin-antitoxin, scarlet fever serum; removal of nasal obstructions; in addition to over two thousand visits to homes. Treatments at home and in school—most of these cases were prophylactic treatments or were not communicable or transmissible diseases. These attentions were given regardless of whether the patient could pay or not. Notwithstanding the extensive activities in school inspection no exact figures were available in answer to the question to what extent school inspection had lessened communicable diseases or influenced their incidence or mortality.

The Sanitary Inspection service done under the direction of the Director of Health is rendered by laymen. Inspections are made of drugs stores, restaurants, fish markets, meat shops and abbatoirs. No supervision of slaughterd poultry is maintained and no record was available of the results of such inspections and no data concerning food poisonings or deaths as a consequence.

Inspections of manufacturing food plants, industrial plants and workshops are made, but the same scarcity of data concerning these inspections as was found in inspections of food distributing places and drug stores was noted. House sewage disposal and public toilets are inspected, the latter regularly. There are 6,000 residential "privies" in the city. The Health Department exercises no regulatory supervision over the sanitary condition of the city's streets and alleys.

Much of the above activities of the Department of Health of the City is duplicated by federal and state inspectors. Such duplication spells waste, waste of time and money. Some working basis should be agreed upon between the City, State and Nation.

An interesting activity is maintained at the City Hall called the Health Office Clinic.

Patients attended	6606
Vaccinations done	979
Toxin-Antitoxin given	299
Typhoid vaccine	358
Pasteur Treatments	1199
Food handlers examined	1258

1796 cases are listed as miscellaneous with no explanation of their nature—nearly one-third of the Clinic's activities.

The control of the sanitary aspects of the City milk supply is allotted to a division set up for the specific purpose of supervision. The Chief of the division is a layman on an all-time basis and is appointed, at least theoretically, by the Director of Health and serves under his pleasure. He has had experience with this sort of work.

There are 11 field workers on an all-time basis and two in the clerical force. The total 1932 budget was $27,504.16. This amount is raised by charging 4 cents per cwt. of milk and is paid by the distributors. It is maintained that the Milk Division does not cost the taxpayers. This, by indirection, is not in accordance with the facts, since the purchaser of the milk must absorb this 4 cents.

About 1250 herds supply milk to the city and these are inspected at least once monthly. The cows are tuberculin tested and this is repeated at intervals of one year if not accredited. Abortion fever tests are run for grade "A" raw milk. Milk is not permitted to be marketed for 10 days after a cow drops a calf nor 15 days before. A cow sick from any disease is not permitted to furnish milk. 389 dairies were closed temporarily in 1932. Raw milk is required to be cooled; a bacterial count is made bimonthly. A maximum of 20,000 on four samples is allowed. No effort is made, routinely, to differentiate germs. No tuberculosis germs were found in raw milk in 1932, it is stated, but this statement loses some value when weighed in the light of the statement that efforts at differentiation except "when expedient," are not made.

TABLE X

Some of the Activities of the Milk Division

Character of Work	Number
Dairy Inspections	12,289
Plant Inspections	1,081
Dairies graded "A"	42
Dairies graded "B"	1,200
Milk samples tested	13,984
Distributors degraded	5
Producers degraded	207
Permits revoked	2
Arrests ordered	1
Milk condemned (gallons)	75
Division Budget	$27,504.15

No routine effort is made to determine the presence of toxin and other protein poisons in pasteurized milk and an average of 50,000 bacteria on 4 counts is allowed as a maximum. An effort was made to ascertain the source of funds used in a propaganda to popularize pasteurized milk in 1932, but the answer "none by Health Department" was the only answer. The same regulations governing cream were in effect as those for milk, but *no control is maintained over butter*. The milk Division recommends the pasteurization of certified milk and when asked if it endorsed certified replied it "recognized" it. An average of 700 gallons of raw milk, 23,000 of pasteurized and 150 of certified milk were sold daily during 1932. No cases of illness due to ice cream were known to the Division and only 40 to milk. The Division's justification for more than one

grade of milk is that "Milk ordinances are not enforcible except by degrading principle made possible by use of more than one grade."

Supervision of the City Water Supply is maintained by the Department of Health. Daily examinations of water are made and no typhoid or colon bacilli were found during 1932. The Department exercises no supervision over the method of purification. There are six public wells in the city that are yet used; these are occasionally examined. None were ordered closed during the year. No examinations are made of private wells unless requested.

Weekly inspections of swimming pools are made; tests for chlorine and total bacterial count made. Hotels are not inspected by the Department.

TABLE XI

Vital Statistics—Communicable Division (Taken from Annual Report of Director of Health) (Fiscal year).

Births		
White	4683	
Negro	751	
Total		5,437
Deaths		
White	3,040	
Negro	1,045	
Total		4,085
Infant deaths (Under one year—still births included)		
White	57.6	
Negro	90	
Total		360
Infant death rate		
White	57.6	
Negro	119.8	
Total		66.2

There were 7 cases of small pox during the year with no recorded deaths; one of these developed in a public school. Patients with small pox are quarantined at home or sent to the City Hospital. There is no fixed time of quarantine for this disease, the desquamation still being the determining factor.

No figures were available concerning the total number of vaccinations done by the department physicians; 3,736 were done in schools. No records are kept of the percentage of successful vaccinations and need for re-vaccination is determined by scar. School teachers, policemen and firemen are vaccinated by the Department. The work in this line done by the Health Department has no statistical value. Were records kept much of the inspection time could be saved and were records kept of the successful vaccinations data worth while could be accumulated. Nothing is being added to medical knowledge by such failure and the service thus rendered at public cost fails its complete purpose.

170 cases of diphtheria were reported with 11 deaths. No Schick tests were done by the department and no toxin-antitoxin given. There is no data available on the incidence of diphtheria in persons having shown a negative Schick test nor for the incidence of diphtheria 3 months or longer after the administration of toxin-antitoxin. 4,968 children were given toxoid; there was one death after toxoid had been given, and one other case developed diphtheria. There was no data available on the results after antitoxin had been given. Some diphtheria developed each month during the year, with the peak of 37 in October and the least (3) in June.

1,043 cases of scarlet fever were reported in 1932 with 11 deaths, a rate of ?6 per 100,000. These patients are quarantined until throat cultures are reported negative, not earlier than the 16th day. 1,498 Dick tests were made and 626 were positive. No data was available on the incidence of scarlet fever in Dick-negative cases. The reactions from the active immunizations were severe.

There is said to be no duplication of the work of the Department of Health and the Louisville Tuberculosis Association.

There were no cases of human rabies reported during 1932. 45 animals were determined to have it. Prophylactic injections of rabies vaccine were given and a charge of $12.50 is made when the citizen is able to pay. This is a flat charge and no effort appears to be made to scale the charge consonant with a patient's ability to pay.

The Laboratory of the Department of Health has a personnel consisting of a Chief, 1 assistant chief and 3 technicians. The maximum salary is $2,400.00 annually and minimum is $1,200.00. Certainly the physicians in this department are not overpaid. No charge is made for any work done in the laboratory. It is not equipped to do all modern laboratory work. Wassermann's and tissue examinations are two outstanding examples.

No scientific data is published other than the monthly and annual reports. No contracts are made to do private work or for firms or corporations. Very little of the work done was requested by physicians engaged in private practice. This might be expected when the enormous amount of work done is considered. Something of the needlessness of the study is shown in Table XII. Too much mere routine is evidenced in the material sent in for study, or is much of it sent in by nurses? One wonders what might be the ex-

planation for so few sputum examinations.

TABLE XII

Nature of Work	No. of Examinations	No. Positive
Diphtheria Suspects	3703	112
Feces parasite Suspects	53	13
Meningococcus Carriers	113	5
Scarlet fever	3767	271
Typhoid Carrier Suspects	3307	0
Trench Mouth Suspects	2573	406
Rabies (animals)	122	48
Sputum	25	6
Malaria	18	1

The Clinics maintained by the Department of Health are considered under the Report of Sub-Committee on Clinics in another section.

Viewing the work of the Department of Health in the aggregate one is reminded by contrast of the words of Dr. Jos. H. Kinnaman of the Iowa State Department of Health, "*Today, intelligently administered public health agencies strive to keep patients in the hands of the private physician whenever possible. This policy permits a lowering of government costs and aids in preserving the institution of private medicine. Cooperation, not opposition, is becoming the maxim of the day.*"

The impression is also gained that bulk, gross, aggregate totals tend to obscure the public health vision; that little concern is manifested if the patient is entitled to free care; that in the haste of turnover no time is left for analytical evaluation of results.

13.5 cents of the tax rate for 1932 was assigned to the Department of Health; 10.5 cents of this rate goes for maintenance of the City Hospital and 3 cents is allotted to the remaining activities of the department.

(d) CLINICS

Sub-Committee Statement

Analysis by Committee on Medical Economics

The Highland Park and Portland Health Clinics are extensions of the Dispensary at the City Hospital. The physicians in charge of these clinics are paid on a basis of hourly service. They are recommended by the physician in charge of Medical Service at the City Hospital and are appointed by the Director of the Department of Health and are paid $3.00 per hour by the City of Louisville. They do not make house calls, such calls being made by the City Physician in the district. Nurses are employed at these clinics at a salary of $90.00 each, monthly. Dressings and drugs are supplied by the City Hospital. Data for computing the cost of operating these clinics could not be obtained.

The Norton Infirmary General Clinic at the Norton Infirmary is called a part-pay clinic. The pay, however, accrues to the Infirmary, since the physicians who work in this clinic are members of the staff of the Infirmary who volunteer for this service and who receive no pay. The class of patients intended to be served are classed as a group between indigence and affluence.

The Red Cross Hospital Clinic has been discontinued; when in operation its work was limited to venereal diseases.

The Presbyterian Church Clinic is operated as two units, (a) the John Little Mission, (b) the Plymouth Settlement House. It is conducted for the benefit of colored babies. The attending physicians are paid a "small fee;" the basis for their service or pay was not determined.

There are two clinics giving free diagnostic cancer study. This service is offered at the Norton Infirmary and at St. Joseph's Infirmary. They state they are affiliated with the American Society for the Control of Cancer. Those associated with these clinics are members of the Staffs of the Infirmaries where conducted. Free diagnostic study is offered without regard to the financial status of the recipient. Anyone thinking himself a sufferer from cancer may be studied, though it is stated the name of a physician must be given. It is further stated that no treatment is given unless requested by the family physician. Attention is invited to a condition of an "open field" to any other hospital desiring to conduct a similar clinic, the only requisites being an adequate staff, facilities for x-ray and radium therapy and laboratory study.

The Sub-Committee concluded its study with the following statement:

"As seen from the above findings the subcommittee has no suggestions or major complaints to offer in the present management and conduct of these clinics. We believe, however, that the principles under which some of them operate are inherently wrong and may sooner or later become injurious to the interests of the public and of the medical profession. If the present management of these clinics could continue indefinitely this danger would be negligible but this may not likely occur and we feel that the proper time to correct an evil is when attention is first directed to it.

"After mature deliberation and following earnest consultation with many leaders of the profession we believe that any free clinic except for the indigent poor is wrong in principle, as it tends to weaken the moral

fibre of the public and to deprive competent trustworthy physicians of proper employment. If any of the clinics have a connection with national organizations which do not so limit their clientele, we suggest that efforts be made to secure authorization to do so locally. The same criticism and objections are offered concerning part-pay clinics unless (1) adequate compensation is given the doctors in attendance, (2) patients able to pay full rates are carefully excluded and (3) a type of service is rendered impossible to obtain elsewhere in the community. As a matter of fact unless all these provisions are fulfilled we see no excuse whatsoever for such clinics except for interne instruction.

"We further believe that the clinics we have studied should refuse to examine any person unless he submits a letter of recent date from his family physician saying that he is poor and indigent and deserving of the clinic's services."

(Signed)
Gordon Buttorff,
Malcolm Thompson,
J. Duffy Hancock, Chairman.

TABLE XIII

General Distribution of Clinics.

Name	Presbyterian Church John Little	Plymouth	Highland Park	Portland	Norton General	Norton Cancer	St. Joseph Cancer
Location	Hancock & Finzer	17th and Chestnut	Crittenden Drive	Portland Avenue	Third and Oak	Third and Oak	Preston & East Pky.
Type	Well Baby	Well Baby	General	General	General	Cancer	Cancer
Auspices	P.H.N.A.	P.H.N.A.	City	City	Norton Infirmary	Norton Infirmary	St. Joseph Infirmary
Days Open	Tuesday	Thursday	Daily	Daily	See Schedule Attached	Wed. and Sat.	Thursday
Hours Open	2-4 PM	2-4 PM	8-4:30	8-4:30	"	11-12	8-9
No. of Patients	120	170	877	1804	1193	290	233
No. of Visits	0	0	3246	5227	2177	562	385
Principal Source of Income	Community Chest	Community Chest	City	City	Patient's Fees	Donated by Hospital	Donated by Hospital
Amount of Income	Not Given	Not Given	Not Given	Not Given	1779.10	Not Given	Not Given
Expenses	Not Given	Not Given	Not Given	Not Given	1701.45	Not Given	Not Given
Admission Fees	25c	25c	None	None	50c 1st visit,, 25c after	None	None
Examination	No charge	No charge	No charge	No charge	No charge	No charge	No charge
Laboratory	0	0	No charge	No charge	1-5 regular	No charge	No charge
Treatment	—	—	No. charge	No charge	?	Minimum	Neglig.
Drugs and Supplies	—	—	10c if able	10c if able	Cost	No charge	No charge
Operations	—	—	Referred to City Hospital	Referred to City Hospital	No charge	No charge	No charge

Name	Presbyterian Church John Little	Plymouth	Highland Park	Portland	Norton General	Norton Cancer	St. Joseph Cancer
House Calls	—	—	Nurse only No charge	—	—	—	—
Night Calls	—	—	City Phys. No charge	City Phys. No charge	—	—	—
Selection of Patients	Any Source	Any Source	Any Source	Any Source	Physician or social worker	Must give name of a Physician	Must give name of a physician
Disposition of Cases	To family physician or hospital	To family physician or hospital	Completed or sent to City Hosp.	Completed or sent to City Hosp	Completed	Referred to family phys.	Referred to family phys.
Fee to Physician	"Small	"Small"	Hourly Rate	Hourly Rate	None	None	None

Color Distribution

Total Number of Patients	Total Number of White	Per cent of Whites	Total Number of Colored	Per cent of Colored
4667	4308	92.5% (approx.)	358	7.5% (approx.)

Fees to Physicians

Amount	Number of Patients	Appx. % of Patients	Number of Visits	Appx. % of Visits
"Small Fee"	270	6%	—	—
Hourly Rate	2681	57%	8473	73%
No Fee	1716	37%	3124	27%

In reviewing the report of the Sub-Committee we find that of the 8 clinics studied only one deals with patients on any sort of monetary basis. This one calls its work a part-pay activity. The combined activity represents medical care for 4,667 patients with a total of 11,597 patient calls at the clinics. 1,193 patients were seen at the "part-pay" clinic and 523 were studied by the Cancer groups.

The only recompense to physicians for all this service went to three physicians who were paid at the rate of $3.00 per hour for work in two clinics maintained by a City institution and financed out of City funds and conducted presumably for indigent patients. Truly, physicians must like financial embarrassment. Truly they seem to like the very thing the Committee on Medical Economics is striving to rescue them from. It is the Committee's creed that indigents should be cared for by the City and County out of funds accruing from taxes; that the profession should care for that group that can pay only a part of what adequate care is worth; that no clinic should be called a part-pay clinic unless the physicians conducting it share in whatever is collected from the patient group.

It is further the opinion of the Committee that there exists no sound professional or social reason for the operation of a free diagnostic Clinic for Cancer. This is not a communicable disease. It is, therefore, not a public health problem. The argument that these clinics are affiliated with the American Society for the Control of Cancer carries no conviction. The personnel of the directors of that organization includes laymen whose influence is not of an ancestry in sympathy with professional ideals or standards and whose judgment of how best to conduct a campaign of education is not the result of a profound knowledge of medicine. They are of the same ilk as is found controlling the committee studying the Costs of Medical Care. Many are socialistic at heart. An educational campaign for the public is permissible, even desirable, but a free diagnosis need not be a desirable feature of an educational campaign. It is not even necessary. A free diagnosis for any condition for any indigent should be and is available. A free diagnostic study for a

person intelligent, enough to accumulate an independent competency is not a necessary form of an educational campaign.

Free diagnostic service, whether rendered by an individual physician or a group under the auspices of a hospital, constitutes an abuse in the distribution of free medical service. The Committee has no desire to limit the purely charity activities of the membership of the Society and feels that free diagnostic and therapeutic service may properly be rendered an indigent, but can see no valid reason for the maintenance of a free diagnostic clinic for cancer or any other disease for persons not indigent.

It is interesting in this connection to note that the medical profession in California, after exhaustive study of this subject, has lent its influence to the passage of a state law which regulates clinics and anyone who wants to start a clinic in that state must show that such service is needed by the community where the clinic is planned. The law defines the word clinic and dispensary and gives the State Board of Health the power to issue a permit for same, as well as to revoke the permits for cause. Clinics and dispensaries are divided into five groups:

1. Charitable.
2. Teaching and research.
3. Employers.
4. Private pay.
5. Governmental.

The law provides that none but a charitable, benevolent or educational corporation shall conduct charitable, teaching or research clinics or dispensaries; that no person or group shall conduct charitable, teaching or research clinics except for benevolent, charitable or educational purposes. No employer shall conduct an employer's clinic or dispensary for profit. Infringements on the provisions of the act are made punishable on conviction by imprisonment for not more than six months and a fine not to exceed $500.00, or both.

(e) THE COST OF HOSPITAL CARE

Preliminary and Final Reports of Sub-Committee

Analysis by Committee on Medical Economics

The Cost of Hospital Care

The Sub-Committee on Hospital Costs submitted a preliminary report on August 24th, 1933, as follows:

"I am inclosing a report on the cost per patient per day in the following hospitals: Norton Infirmary, Deaconess Hospital, St. Joseph Infirmary, Sts. Mary and Elizabeth Hospital, St. Anthony Hospital, Jewish Hospital, Children's Free Hospital, Kosair Crippled Childrens' Hospital and Baptist Hospital.

"It will be noted that but one gave any information other than the actual cost of patient per day. I have requested each member of the Sub-Committee to secure in addition the number of pay patients with total of pay days, and number of free patients with total of free days, and as well the percentage of occupancy of the hospital during the year 1932.

"When this information has been returned I will be glad to forward it to you some time in October.

(Signed) Irvin Abell."

"Hospitals:

(The Committee purposely concealed the identity of the hospitals by referring to each by a letter instead of by name).

A.

Status of Patients	Number	Hospital Date
Pay	2911	29036
Part-pay	706	10751
Free	1456	14728
Totals	5073	54515

Average cost per patient per day $2.15

B.

During the six months ending April 30, 1933, the total daily cost of caring for each patient was $5.93. During that time daily income received from patients was $5.56, the net loss to the hospital being $.37 per day on each patient. This includes private room, ward and charity patients.

C.

Average daily cost per patient $3.18. Room, ward and charity patients.

D.

Average cost per day per patient $3.25.

E.

Average cost per day per patient $2.46.

F.

Average cost per day per patient $4.75.

G.

Average cost per day per patient, 1932, $6.95; first six months 1933, $4.91.

H.

Average cost per day per patient $3.25.

I.

Data refused.

Additional data was secured by this Sub-Committee and reported November 20, 1933, as follows:

"The Sub-Committee on the Study of Institutional Cost per Patient per Day in the Louisville Hospitals submits its report based on data furnished by the following hospitals for the year 1932:

St. Anthony's Hospital
Sts. Mary and Elizabeth Hospital
Jewish Hospital
Kosair Crippled Children's Hospital
Children's Free Hospital
St. Joseph's Infirmary
Kentucky Baptist Hospital
Methodist Episcopal Deaconess Hosp.
John M. Norton Mem. Infirmary

"The committee desires to write into the record its appreciation of the co-operation of these institutions in making the report possible.

HOSPITAL CAPACITY

"The number of beds available for hospitalization of patients in these nine institutions is 1167.

PATIENTS ADMITTED

"The number of patients received into these hospitals during 1932 totaled 19,204. These may be divided into three groups, as follows:

"GROUP I. Full pay patients in all nine hospitals 12,378 with a total of hospital days amounting to 143,767, for which the hospitals received their established charge. The Children's Free Hospital with 915 patients and 21,196 patient days and the Kosair Crippled Children's Hospital with 183 patients and 13,975 patient days are included in this group, since the funds allocated to the former by the Community Chest and to the latter by the Crippled Children's Commission, together with other donations cover their fixed cost per patient per day.

"GROUP II. Part pay patients in six of the nine hospitals 4,120 with a total of hospital days amounting to 45,538, for which the hospitals received but a part of their fixed charge. For the above mentioned reasons the Children's Free Hospital and the Kosair Crippled Children's Hospital are excluded from this group, as is also one of the private hospitals, from the records of which accurate data regarding part pay patients could not be obtained.

"GROUP III. Free patients in the seven private hospitals, 2,706 with a total of hospital days amounting to 31,662 for which the hospitals received nothing. This is equivalent to caring for 1,050 patients for one month, the expense of which computed on the average cost per day per patient amounts to $139,916.04. This, together with the service given to part pay patients, represents an appreciable contribution to the community in the care of its indigent members by the Louisville Hospitals.

PERCENTAGE OF OCCUPANCY

"The average occupancy for the year in the nine hospitals was 62 per cent, or 723.54 beds, leaving an average of 38 per cent, or 433.46 beds unoccupied. The Louisville hospitals draw their patronage not alone from Jefferson County, but from the state at large and the surrounding states as well. The low percentage of hospital occupancy may be explained by two factors, both of which doubtless play their part; one, the economic depression which has existed since 1929 and has caused a material decrease in the number of patients seeking hospital treatment; two, Louisville is over-hospitalized for the community it serves.

COST PER DAY PER PATIENT

"The average cost to the institution per day per patient in the nine hospitals was $4.07. Presumably this covers the cost of new equipment but does not cover the depreciation in property. Some of the personnel in all of the hospitals serve without pay, to greater extent in some than in others, such service being a contribution to the community. The rather wide variation in the cost per day per patient in the different hospitals would indicate that with better methods of business and economy the average cost could be reduced.

GROSS INCOME

"The gross income of the seven hospitals totalled $825,196.32, for which they gave hospital service aggregating 186,696 hospital days. As stated above, the Children's Free Hospital and the Kosair Crippled Children's Hospital, both giving free care to all patients, received substantial sums from Community funds, the remainder of their budget being made up by donations. The average cost per day per patient in these two institutions was $2.46 and $3.25 respectively and the gross income of the two was $94,635.91 for 34,271 hospital days service.

"The seven private hospitals which depend upon fees from patients for their support derived a total gross income of $761,495.76 from such source and had an average cost per day per patient of $4.42. Five of the seven showed a deficit for the year.

(Signed) Irvin Abell, Chairman.

COMMITTEE

Dr. J. B. Lukins,
Dr. Chas. Gaupin,
Dr. J. D. Hancock,
Dr. W. E. Hume,
Dr. Lee Kahn,
Dr. W. B. Owen,
Dr. E. L. Henderson,
Dr. J. H. Pritchett,
Dr. Irvin Abell.

Analysis of the Sub-Committee's Report: It is estimated that in the United States about 23 cents of every dollar the public pays for medical care is spent for hospital service. The cost in Louisville is probably higher because of the number of small units; with the duplication of overhead and administration the cost per day for the private patient is high. In round numbers 19 thousand patients were admitted to the private institutions; about two-thirds of these were pay patients, and the remaining third nearly equally divided between part-pay and no-pay patients. The no-pay cases cost the hospitals over 130 thousand dollars for care in 1932. The average occupancy was only 62 per cent. The range of cost per day was from $2.15 to $5.93, with an average of $4.42 per day. The low percentage of occupancy and the high rate per day makes the hospital bill for the pay patients of Louisville an item of nearly 800 thousand dollars annually. The variation of cost per day would indicate, to no small degree, considerable variation in business methods. A group of institutions doing nearly a one million dollar business, with two-thirds of them incurring a deficit to which must be added depreciation constitutes a problem of community interest.

In most of the hospitals there is no endowment fund and where one does exist its income is inadequate to meet the cost of caring for the indigent group of patients. It would seem that in all the hospitals caring for private patients these same private patients are penalized for the purpose of meeting in whole or in part the cost of caring for the indigent group. This is not an equable arrangement and it would seem that a hospital caring for pay cases without any income for caring for indigent cases should refrain from accepting such cases for hospital care. Such cases properly belong in the City Hospital, an institution built and maintained for the indigent sick. The bed cost per day in the City Hospital does not approach $6.95 or even $5.93, and further, it is a teaching institution and the indigent sick can make some contribution to a better medical care through lending themselves to a teaching service.

The bed capacity of the eighteen active hospitals in the city and county for 1932 is given in Table 14. It is interesting to note that there are 1,246 free beds against 1,199 for those who pay their way. Put another way, the self-sustaining portion of the citizenry furnishes more hospital facilities for the indigent group than it commands for itself. This disproportion is further augmented when it is recalled that 36 per cent of patients admitted to pay beds come from outside the city and county.

TABLE XIV

Showing Number Hospital Beds,—Governmental, Private and Charity, in Louisville, 1932.

	Ownership	Beds	
A.	Government:		
	1. Federal	83	
	2. Municipal		
	City Hospital	467	
	Waverly Hills (Jointly with County)	465	
	3. State		
	Hazelwood (12 beds free)	80	
	Total		1095
B.	Charity (Independent)		
	1. Kosair Crippled Children	77	
	2. Children's Free Hospital	74	
	Total		151
C.	Private, General,		
	1. Jewish Hospital	86	
	2. Kentucky Baptist Hospital	130	
	3. Methodist Episcopal Deaconess Hospital	67	
	4. John M. Norton Memorial Infirmary	167	
	5. St. Anthony's Hospital	135	
	6. St. Joseph's Infirmary	300	
	7. Sts. Mary and Elizabeth Hospital	145	
	8. Red Cross Hospital (Negro)	60	
	Total		1090
D.	Private, Special,		
	1. Beechhurst Sanatorium	20	
	2. Louisville Psychopathic Sanitarium	24	
	3. Pope Hospital	25	
	4. Stokes Sanitarium	40	
	Total		109
	Grand Total		2378

The total cost of hospital care for 1932 is shown in Table 15. The hospitals have been grouped for tabulation purposes; the 8 general hospitals as Group "A"; the Children's Free Hospital, the Crippled Children's Hospital, the City Hospital and Waverly Hills as Group "B" and the special private hospitals as Group "C". The figures for the City Hospital and Waverly Hills were compiled from data obtained from the reports of the Sub-Committees which studied these institutions.

The figures in the Private General Hospitals, however, must not be considered as entirely Louisville and Jefferson County's hospital bill. In fact, 36 per cent of the pa-

tients are admitted from the state outside of Jefferson County and from other states than Kentucky. Hence, 36 per cent of the private patient hospitals days must be deducted from the total to determine what is contributed by the home pay cases.

Table 15 shows the number of patient days for the three groups cared for in the private general hospitals. $685,250.00 represents the total income from the pay and part pay groups and $240,290.10 was derived from the out-of-town group, leaving $438,560.18 as the sum paid for hospitalization by the resident group to private hospitals. The total hospital bill was $1,910,744.22, from which is deducted $240,290.10 paid by out-of-town patients, leaving $1,670,454.12 as the hospital bill for Louisville and Jefferson County

TABLE XV

Showing Total Cost of Hospitalization in 16 Louisville and Jefferson County Hospitals for 1932. Group A. represents General Private Hospitals, Group B. Tax and Donation supported, Group C. Special Private Hospitals.

Hospitals	Patient Days	Cost per Day	Total Cost
Group "A"	186,696	$4.42	$825,196.32
Group "B"	357,355	2.65	946,955.90
Group "C"	34,648	4.00	138,592.00
Totals	578,699	3.32	1,910,744.22

TABLE XVI

Showing the revenue derived from Pay and Part-Pay Patients in Private General and Private Special Hospitals. The Out-of-Town Group Constitutes 36 per cent of the Totals. (Figures compiled for 1932).

Status of Patients	Patient Days	Total Cost
Pay	109,496	$483,972.32
Part-Pay	45,538	201,277.96
Out-of-Town	55,812	246,690.10
Local Group	99,224	438,560.18

If approximately 23 cents of the nation's medical dollar goes into the cost of hospital care and if the tariff in Louisville is higher than in the U. S. at large, it would seem a fair estimate to charge 25 cents of every dollar spent in Louisville and Jefferson County to hospital cost.

Inasmuch as the total hospital bill for 1932 in the city and county was approximately 1,670 thousand dollars ($1,670,454.12) and as this is estimated to represent 25 per cent of all medical cost, the total costs of medical care for Louisville and Jefferson County for 1932 was approximately $6,681,816.48

(f) HOSPITAL INSURANCE

Analysis by Committee on Medical Economics

Sub-Committee Statement

Analysis by Committee on Medical Economics

Hospital Insurance, a rather vague term, has come to be understood by the public to mean the offering for sale a designated service and accommodation in a hospital for a limited period of illness at a nominal sum paid in advance.

The holding of such contract for hospital care is sometimes referred to as "membership" and the sum paid for the contract is called "dues." It requires no unusual astuteness to discern the fact that the incentive to hospital boards and superintendents to consider such plans had its birth in the need for either stabilizing or increasing hospital income.

The American Hospital Association in 1932 endorsed the principle of periodic payment of costs of hospital service and has suggested a model program. The movement is in its infancy and it may be confidently predicted that this particular experimentation in hospital financing will increase. Physicians are conversant with the financial troubles of hospitals, but they are also aware of the responsibility of giving careful consideration to this new adventure. They, too, have their financial burdens to meet and unless the schemes for hospital insurance actually save the public on its medical costs bill, they cannot give approval. The fact that the hospitals adopt the plan for the purpose of increasing their income argues caution.

The Committee on the Costs of Medical Care found, in studying the incidence of illness in 875 familes of an average of 4 members per family, that nearly 50 per cent reported *no illness* during 1928-30, the years studied. Other studies of "Life Expectancy" show that about 2 per cent of the population is incapacitated by illness throughout a year and that the average time so lost was 8 days per employed person per year. It would seem that a plan providing for 30 days hospital service in a ward bed in one year at a cost of 13 dollars is not exceedingly liberal.

Another angle which must appeal to the physician is that this budgeting in no way touches a provision for the payment of the physician's fee. The head of the house is encouraged to carry insurance to provide burial expense in case of death; that consumes a part of his income, and in this state the law gives the mortician priority of claim over

the physician. Then the head of the house is urged to budget for hospital service and more cash comes out of his income. The physician must again step aside.

There is a deeper significance in the interest of the physician in hospital insurance. More than half the illness of the public does not require the service of a hospital. Home care is adequate in this group and the money unnecessarily spent in a hospital had better be spent for necessities for the sick. The sale of "memberships" in hospitals encourages the public to become more "hospital minded." Unless hospital service be a necessity its purchase becomes an extravagance.

The study of Hospital Insurance as it affects Louisville was made by the Sub-Committee on Hospital Insurance. Its report follows:

(f) Hospital Insurance

"Your Sub-Committee on Hospital Insurance respectfully submits the following report and recommendations:

Group Hospitalization

"A Group Hospitalization plan may be acceptable to the medical profession provided certain essentials of fairness and equality to all concerned and of economy in administration be incorporated in such plan. These essentials are:

1. That the plan be a community proposition open to all reputable hospitals, controlled by hospitals and conducted for public service and not for profit.

2. That all the private hospitals of the community, both open and closed, embrace the plan. Otherwise the subscriber—the patient—is hampered in that free choice of hospital and physician which should be his. Any infringement of this freedom of choice is not to be condoned by medical organizations.

3. That the hospitals furnish a uniform service and a uniform charge agreed upon among themselves and definitely and clearly specified in the agreement with the subscribers; in this way any competitive feature is removed as between hospitals and the patient (subscriber) is insured of the same degree of service in whatever hospital he may choose.

4. That the service be offered to employed groups of individuals with incomes below a stated amount and that no obligation should be incurred to render service unless the patient is admitted to a hospital and attended by a physician.

"Your Committee believes that a Group Hospitalization conforming strictly to the above essentials can be recognized by the Jefferson County Medical Society as not being antagonistic to the interest of the profession. We even see that certain obvious advantages might accrue so long as such a plan is kept strictly within the limits outlined above.

"Any extension of such plan to the inclusion of medical and surgical service to be furnished the subscriber—and such a contingence is considered among the later possibilities—should be promptly and unreservedly condemned by the Society.

"Your Committee recommends then that Group Hospitalization strictly along the lines outlined in this report may be recognized without prejudice by the Jefferson County Medical Society when, and if, such plan is adopted by the hospitals of this County. The present status locally of Group Hospitalization does not conform to the above outlined plan and is held faulty in that, with a majority of the hospitals outside the plan, the subscriber and the physician are hampered in the free choice of hospital. The plan now in use has the additional objectionable feature of being promoted for profit by a private organization not controlled by any hospital.

Respectfully submitted,
Guy Grigsby,
M. J. Henry,
Heman Humphrey,
J. M. Kinsman,
W. Hamilton Long,
D. Y. Roberts,
H. H. Hagan, Chairman."

Those responsible for hospitals imitated industry in its nightmare of inflation which came to an abrupt end in 1929. Overbuilding by gifts, bonds or taxation created a bed capacity and an overhead of management that with the lean years has created a panic psychology. With increasing deficits and empty beds, hospital managements have frantically espoused any proposal calculated to save them from bankruptcy.

Many of the schemes proposed for hospital insurance have claimed to be modelled on the British plan. As a matter of fact, the British Health Insurance Law does not provide for hospitalization and such plans as came into existence there were "hospital contributory schemes" to relieve the "voluntary" hospitals of overcrowding and under-financing. The overcrowding was the result of the trend for increased demand for hospital care that developed during the 20's in every modern nation. It appears strange that with the problem of overcrowding confronting them these same hospitals should set up machinery for further increasing demands for hospitalization. The only reason that can be found for this apparent contradiction of interests

is found in the fact that a profit was realized. The source of this profit came through the payment by more than 90 per cent of the group of insured who did not require care. The schemes first applied to low income brackets and gave ward-bed care. Then the schemes were broadened so as to include higher incomes. The cost varied from $3.00 annually for the lower incomes to higher costs for the wealthier classes. The movement grew until in 1931 the total income reached the staggering figure of 12 millions of dollars. Singularly, perhaps it should be said characteristically, there did not develop a single private, profit-sharing company in any phase of this hospital management in England.

While developed under the guise of imitation of the British plans, the dominating pattern of hospital insurance in the U. S. has been the industrial system. The principles of philanthropy gave place to those of business when the idea was transplanted on American soil. The most objectionable phase of modern business, viz., high pressure salesmanship, has been drafted to insure success. Nearly equally hurtful has been the "power of compulsion" through employment, which has been used to enlarge the scope of these hospitalization schemes.

Another phase of this problem that seems to have been overlooked by the hospital people is the enormous percentage of hospital care that is given by Government Hospitals. In 1932, based on patient bed-days, 74 per cent of all patients hospitalized were cared for in Government hospitals without cost to themselves. This sharply emphasizes the extent to which taxpayers are committed to the care of everyone save themselves. The term "Government" is here meant to include federal, state, county and municipal institutions. Of course a large part of this government group is devoted to the care of mental disease.

The magnitude of the problem can be sensed by marching a few numerical facts in review. In 1932 something over $3,500,000,000 had been invested in real estate, buildings, equipment and endowment funds for hospital purposes with no expectation of return. 90 per cent of this enormous sum was obtained from federal, state and municipal resources, as well as funds from individuals and corporations and no financial return expected. During that same year, of the more than 600,000 beds in these hospitals there were 65,000 vacant beds in the government-owned hospitals and 145,000 in the hospitals termed private or voluntary. Notwithstanding, strong pressure has been made on officials to set aside more money for new buildings or additions.

TABLE XVII

Total Patient Days in Government and Private Hospitals in U. S. A. in 1932.

Hospital		Patient Days
Private		72,371,105
Government		
Federal (all kinds)	21,164,160	
State, County and City	201,547,160	
Total		222,712,320
Grand Total		295,083,425

TABLE XVIII

Showing Bed Capacity For Mental Cases and Per Cent Occupancy in U. S. A. in 1932

Hospital	Beds
Non Federal	20,183
Government	407,160
Total	427,343
Per cent Occupancy	94.9

Is the country as a whole over hospitalized? Since the majority of patients are hospitalized on the advice of a physician the opinion of doctors is entitled to some consideration in answering this question. A poll was made by Medical Economics and 4,516 ballots were returned. 69 per cent expressed the opinion that over-hospitalization exists. On the same ballot the question was asked, "Are patients being hospitalized more frequently than necessary?"; 86 per cent answered *Yes*.

The hospital bed capacity needed in a given geographical sub-division may be reasonably determined by the yardstick of five beds for general use (medical, surgical, obstetrical) per 1,000 population, five beds per 10,000 for communicable diseases, five beds per 10,000 for children, forty-five per 10,000 for maternity care and as many beds for tuberculosis as equals the average number of deaths annually.

Some thirty schemes are already in operation. An analysis of most of these has convinced the Committee that the following statements may, consistently, be made:

1. Mortality has not decreased.
2. Length of hospitalization has been increased.
3. Hospitalization for minor illnesses has increased.
4. Malingering is encouraged.
5. Voluntary insurance is usually unsuccessful. Compulsory insurance follows in its wake.
6. The cost of such plan usually covers a wage for the salesman or a profit for

the promoter.

7. Hospital construction has run riot. Insurance plans merely help to keep alive more bed capacity than is necessary.
8. Hospitalization has been a large factor in the cost of medical care.
9. The idealism of hospitals is jeopardized.

The Judicial Council of the A. M. A. said of such plans in its report to the House of Delegates in 1931 that "these schemes were regarded as being economically unsound, unethical and inimical to the public interest."

There is a legal aspect to Hospital Insurance. Already twenty-one State Insurance Commissioners have ruled that Group Hospitalization contracts constitute Contracts of Insurance; ten State Commissioners have ruled such insurance is not Contract for Insurance; four have been indefinite or evasive; two have replied that they have no opinion; five have not replied; seven say they are contracts, but with qualifications.

Hospital plans are being worked out more or less comprehensively and satisfactorily in many communities throughout the United States. There seems to be no valid reason why some plan could not be made applicable to and workable in Louisville.

Your Committee feels that the proper plan for Louisville and Jefferson County would be one which embraces all the private hospitals of this community. This allows the holder of group hospitalization the free choice of physician as well as hospital and is the only thoroughly satisfactory plan worth endorsing.

It is further suggested that the Group Hospitalization plan be administered and directed by a central group representing all the participating institutions. This should be a non-profit organization whose function it would be to provide hospitalization for the greatest number of people at the smallest possible cost. No money should be made by anyone except the hospitals themselves, and no benefits should be provided except hospital care. The inclusion of physician's or surgeon's services for the subscriber on any hospital plan is unreservedly disapproved by the Committee.

We would approve a plan for budgeting the incomes of nearly 80 per cent of the public, thus providing for funds to be set aside to meet the cost of sickness; about 30 per cent of this group have incomes under $1,500.00 a year. A system of hospital insurance that takes 50 per cent of such budgeted funds for reserve, sales expense, overhead and lay profit loses its appeal and does not appear to fit into a scheme to lower the costs of medical care.

(h) THE MEDICAL PROFESSION

Sub-Committee Report

Statistical Data

Census

Income

Analysis of Committee on Medical Economics.

Total Cost of Professional Service to Community

Numerical Relation to Population

The Physician's Income, the Cost of Professional Service and the supply of physicians in Louisville would appear to be inquiries presenting no material difficulties in answering. Being the one phase of the Costs of Medical Care about which the Society members have first-hand information, it would appear that data might be had for the asking. And when it is recalled that the Committee's study, of necessity, carried it into the private affairs of hospitals, Public Health officials, manufacturers, merchants, druggists, one would think that the doctors would have contributed this bit of necessary data willingly and promptly. A plan was adopted whereby the information needed could be had with every assurance of privacy and with no cost to the informant. How little a willingness to cooperate and make the work of the Committee a bit easier, as well as a lot more accurate, is evidenced by a return of the inquiry cards by only 33 per cent of the membership. Similar questionnaires in other societies have met with a response as high as 78 per cent. The Committee wonders if the level of appreciation for its work is to be gauged by this level of willingness to help.

Report of Sub-Committee on Physicians and Physicians' Income For 1932

"To each of the 395 members of the Jefferson County Medical Society for 1932 a non-identifiable postcard was mailed with the request that his gross and net incomes for 1932 be filled in and the card returned to the Chairman.

TABLE XXI

Total Number of Physicians Licensed, Number of Members of Society and Character of Work, for Jefferson County, Including Louisville, 1932.

Number licensed	523
Number in active practice	550
Number members County Society	395
White	514
Negro	36
General Practitioners (per cent)	45
Partial Specialists " "	37
Whole Specialists " "	18
Salaried Physicians " "	13

TABLE XXII

Showing the Distribution of Physicians as to Kind of Professional Work Being Done by the 550 Engaged in Active Practice in Louisville and Jefferson County in 1932.

General Practice	336
Surgery	59
Eye, Ear, Nose and Throat	35
Internal Medicine	20
Obstetrics and Gynecology	26
Urology	14
Pediatrics	12
Orthopedics	6
Anesthetists	7
Dermatology	5
Pathology	4
Tuberculosis	4
Proctology	4
Public Health	3

"There are 623 physicians listed as living in the City and County; this gives one physician to every 500 population. There are, however, approximately only 550 listed as active; this gives one physician to each 650 population in 1932.

"Of the 395 members only 131 returned their cards to the Committee. This represents a 33 per cent cooperation.

TABLE XXIII

Showing Average Gross and Net Incomes of 131 Members Returning Non-Identifiable Cards; Also Indicating Nature of Work.

	Gross	Net
General Practitioners	$ 5,215.71	$2,842.34
Internal Medicine	9,336.00	4,775.33
Surgeons	11,533.27	4,106.82
Eye, Ear, Nose and Throat	6,672.89	3,566.15
Public Health		3.368.00
Average Income, All Groups,	6,320.49	3,037.50

"With only one-third of the members of the Society cooperating in this questionnaire, it is my belief that the figures obtained are too high and, therefore, not a fair estimate. It is suggested that the Committee's report be considered not complete and urge that better cooperation be given next year."

(Signed) Charles Edelen, Chairman.

The Committee on Medical Economics agrees with the Chairman of the Sub-Committee in the conclusion that the figures obtained from the non-identifiable post cards on which the members of the Society were asked to note their gross and net incomes are definitely misleading. They are given in Table 23 with the comment that they merely show averages of those who replied. The average gross income for the year was $6,320.49 and the average net income was $3,037.50. Overhead consumed 50 per cent of the gross incomes of those reporting. It would appear that there were some need for greater efficiency in budgeting on the part of the local profession. In studies elsewhere it has been found that about 40 per cent of income goes for overhead.

Table 24 gives a graphic picture of how the physician's dollar is spent. 48 per cent goes for overhead, leaving but 52 per cent for caring for the maintenance of his home, the education of his children, taxes, insurance, club, church and lodge dues, recreation, post graduate study and a mite for a rainy day.

TABLE XXIV

The Doctor's Dollar

Office Rent	17 cents
Transportation	10 cents
Salaries	11 cents
Drugs, supplies,	6 cents
Miscellaneous	4 cents
Net Income	52 cents

13.1 per cent of those replying were salaried physicians with an average net income of $3,368.00 annually. Comparing these figures with the average net income of those engaged in private practice it appears that from a financial viewpoint the only advantage the private practitioner enjoys is independence, but not of a financial sort.

In Philadelphia (1932) 23 per cent of physicians found it necessary to depend on sources of income other than their practice to meet their expenses. It is estimated that physicians collect less than 70 per cent of what they book. In 1928 the average income of physicians in the U. S. was estimated to be $5,806; in 1932 it had fallen to $3,969. This represents an income of only 68 per cent of what it was before the depression began.

Table 26 shows the average net income of physicians in the U. S. in 1932 according to community population. An analysis of this income, taking $3,000 as a median income, shows that the physician is paid less than the average mechanic. If the physician works 62 hours per week and if he takes two weeks for a vacation, he actually works 3,100 hours each year, for which he is paid $3,000, or less than $1.00 per hour!! At this figure the entire medical profession earned about $500,000,000 net income in 1932. It was estimated that the total costs of medical care in 1929 in the U. S. was $3,656,000,000 and that the physicians were paid 29.8 per cent of this sum. It is not thought that the total

costs of medical care have fallen off 32 per cent, as has the physicians' income and hence in 1932 physicians got about 25 per cent of the total medical bill. To put it another way, the total gross income of the physicians of the U. S. in 1932 was about $830,000,000 or the per capita cost to the public for the services of physicians was less than $7.00 per year in 1932. These figures do not tell the whole story, however, for it must be borne in mind that less than one-fourth of this total net income was paid to the less prosperous half of the profession.

TABLE XXVI

The Annual Net Income of Physicians of the United States in 1932 According to Community Population.

Population	Income
Less than 3,000	$2,500.00
3,000-25,000	3,900.00
25,000-50,000	3,000.00
50,000-100,000	3,100.00
100,000-500,000	3,500.00
500,000-1,000,000	3,000.00
Average U. S.	3,000.00

When the Statement is made that the total cost of medical care for the U. S. per year reaches the staggering figure of $3,656,000,000, the average concept is that physicians are over-paid. The American public spent one-third of a billion dollars in 1932 for secret-formula drugs. This is one-tenth of the total cost of all medical care and equalled two-thirds of the total net income of the physicians of this country for that year.

The total cost of medical care in Louisville and Jefferson County for 1932 was approximately $6,682,000.00. The Committee on the Costs of Medical Care estimated that, of the nation's medical care dollar in 1929, 29 cents went to the physicians. Assuming this estimate to be reasonably correct and assuming that no marked departure from the average obtained in Louisville and Jefferson County, and estimating the Doctor's Income in 1932 to be 68 per cent of that in 1929, it may be stated that the income of the medical profession of the City and County for 1932 was $1,317,689.00, or an average income for the 623 licensed physicians of $2,115.00.

More physicians are uniformly found practicing in cities in which are located medical schools than in those of comparable size without them. It is not surprising, then, to find a high ratio in Louisville. Its Medical School graduates an average of 85 annually; many of these interne in the local hospitals and remain here to practice.

The graduation of the present number of physicians in the U. S. as a whole has been subjected to serious study by the Committee on Medical Education. In 1932 over 7 thousand graduates were licensed by State Boards to practice medicine. Nearly 5 per cent of these graduated from Class B and nondescript schools.

The total number of physicians in the U. S. in 1932 was approximately 160 thousand. The Committee on Medical Education found there has been a steady increase in the number of graduates since 1921. In 1932 there were 22,135 matriculants and 4,936 graduates. In the same year there were about 3,000 deaths among physicians. In the ten year period prior to 1932 there was an average of 3,088 deaths and an average of 3,920 graduates with graduates exceeding deaths by 832 each year. Since that period the excess is over 1,700 annually. The Committee concluded that "there are more physicians in the U. S. than are needed to provide an adequate medical service for the Country," and again, that "the medical schools in the U. S. are producing more physicians than the Country needs." The Committee estimated that one physician to each 1,200 can provide adequate medical service; at present there is one to every 780.

The House of Delegates, American Medical Association, are seen to hold the view that medical schools are graduating too many physicians annually. In the 1932 Session it unanimously voted that "the American Medical Association * * * inform the public, the profession is overcrowded * * * and invite the active support of the Association of American Medical Colleges in bringing about a substantial reduction of their enrollment." With these facts and opinions in mind it would seem to your Committee that the Medical School of the University of Louisville should fall in line and reduce its matriculations rather than make an effort to increase or maintain them at present levels.

(h) SOCIAL SERVICE LAY WORKERS

Summary of Reports From Various Sub-Committees by Committee on Medical Economics

The Social Service work in the City Hospital is directed by the head of the Medical service of the hospital and is financed by the City. There were 10 employes in the service in 1932 under the title of Social Workers, stenographers and clerks, a total cost to the taxpayers of $12,333.12 annually. In addition there are many volunteer workers in various ways connected with the work. The service does not seem to cover all the clinics in the Dispensary. Three conditions are stated to aid in determining the admission to the dispensary or hospital, (1) non residence, (2) adequate income, (3) under a private

physician's care. The interview is described as "hasty." County cases are admitted through the County Welfare Department.

A charge of 10 cents is made for medicines and this is collected by the druggist. To the question, "Are some patients able to pay full cost of medicines?" the answer was given, "unknown." Transportation is given patients to the Clinics and hospital and the need for this is determined by the "physical condition." This transportation consists of carfare, auto and ambulance. It is estimated that about 20 per cent of the work is referred by the Family Service organization or other Community Chest agencies.

The Social Service Department recommended that an admitting service be set up; a staff of 8 workers were thought necessary for this work. It further recommended that additional space be set aside for this work.

The Committee finds from the reports of the various departments of the Louisville City Hospital in answer to the questionnaire which was submitted to them some months ago that there is almost an unanimity of opinion that the contribution of the Social Service Department has been inadequate.

This we believe has been due essentially to its limited personnel and lack of coordinated service, with too much emphasis placed on certain phases of its work and not enough on others. It is also true, perhaps, that some departments of the hospital have requested more service than others, and some of its duties have been confined too strictly to routine clerical work in gathering statistical data rather than to pure case work investigation.

While it is a part of the duty of a social service worker to investigate the environmental, domestic, social and financial status of a patient in so far as any or all of these factors may be related to his illness and possible convalescence, we do not believe that such a worker should have the responsibility of determining whether or not any given patient is able to pay for service in a public hospital, or whether or not he should be admitted to such a hospital at all, except in cases of emergency.

We believe that these latter functions should be performed by one or more persons trained by experience in the matter of business investigation and should be attached directly to the office of the Superintendent of the hospital, who is, after all, the one responsible to the tax payers of the city for an efficient and economical administration of the hospital and the avoidance of any abuses which might be heaped upon it for personal financial gain, or purposes otherwise objectionable. We do not believe that any part of this responsibility should be delegated to a social service clerk, as seems to have been the practice heretofore, especially in the matter of determining the residence and financial status of the patient, and whether or not he was entitled to the services of the Louisville City Hospital.

Lay Workers in Professional Fields

The flare for engaging in the care of the sick in some capacity by young female members of the lay public may not be easily understood. It exists, nevertheless, in Louisville as well as elsewhere. It has not attained disturbing proportions here, but everyone engaging in such work displaces an already trained worker entitled to her livlihood.

There are at least three groups of non-medical persons who in one way or another, are giving advice or treatment to the public. The first is composed of nurses, some of whom are doing visiting or follow-up work, and some are giving anesthetics. The second group is made up of laboratory technicians. The third group consists of untrained women helping in clinics, dispensaries and hospitals under the guise of charity. The activities of these groups have an obvious bearing on the economic condition of physicians, as well as the safety of the sick. As the Journal Lancet commented in a timely fashion, "Everyone is practicing medicine." Athletic directors, barbers, beauticians, show salesmen, druggists, swell the growing number of those selling medical advice. Banks, industrial corporations, universities and public utilities are organizing "welfare departments" under various names and guises, where employes, students, even the public, are receiving "medical care." How harmless seems the sale of aspirin, headache powders, laxatives, mercurochrome and camphor in a "rest room;" when someone is found unconscious the physician is not thought of and called, but the police department with an oxygen tank. Will physicians ever be able to take a leaf from the lawyers' code and distinguish between charity and imposition?

"The profession is even complacent about who trains and what kind of training is given the technicians they are asked to employ. A ready illustration is afforded here in the course of training given in the State Board of Health laboratory. The tuition is absurdly high and the efficiency of the product turned out is discouragingly low."

SECTION IV
RECOMMENDATIONS
BY THE
COMMITTEE ON MEDICAL ECONOMICS
OF THE
JEFFERSON COUNTY MEDICAL SOCIETY

1. Medical Care of Indigents.
2. Medical Care of Part-Pay Group.
3. The Won't -Pay Group.
4. Private Hospitals.
5. Communicable Disease Hospital.
6. Clinics.
7. Federal Health Activities.
8. Hospital Insurance.
9. Rating and Credit Bureau.
10. Medical Lien Law.
11. Free Information by Physicians to Insurance Companies.
12. Nominating Committee.
13. Public Relations Committee.
14. Society Emblem.
15. Irregular Practitioners.
16. Individual Business Methods.
17. Civil Service for Physicians in City Employ.
18. Educational.
19. Physicians' and Nurses' Register.
20. Proposed Code.
21. Specialism in Medicine.

RECOMMENDATIONS

I. MEDICAL CARE OF INDIGENTS

1. The Committee recommends that the Society recognize the classification of the public when ill or injured into four groups:

(a) The can't pay group.
(b) The part-pay group.
(c) The won't-pay group.
(d) The do-pay group.

Recommendations are offered concerning the medical care of the first three; only a prayer of thankfulness is offered for the fourth group.

2. It is recommended that the indigent group be continued to be cared for by the Department of Health of the City through its existing agencies.

3. That the activities of the Department of Health of the City be confined to:

(a) The control of communicable diseases; that it work with the Society instead of independently.
(b) Educational activities looking to the prevention and spread of communicable diseases.
(c) Carrying out sanitary measures by the inspection of food stuffs, supervision of waste disposal and supervision of the water supply.
(d) The maintenance and supervision of agencies for the treatment of the indigent group such as the City Hospital, suitable clinics for ambulatory patients and physicians and nurses for visitation of the bed-ridden.

4. That the Laboratory at the City Hall be merged with the Laboratory at the City Hospital for economical reasons, as well as increased efficiency.

5. That the City Physicians be made all-time employees and the number reduced.

6. That the City Hall Clinic be abandoned.

7. That the School inspections be confined to determination of communicable diseases alone and that detection and correction of non-communicable diseases or defects be released to the private physician.

8. That records be kept of such work as is done to the end that it be made available for statistical study and serve as an index to progress in health matters locally.

9. That plans be made to avoid duplication of work with Federal and State public health agencies.

10. That no medical care be rendered to city employes except under emergency conditions and when the disability is incurred as a consequence of service in connection with their employment.

11. That only indigent patients be admitted to the City Hospital except under certain emergency conditions.

12. That emergencies on the streets or in public buildings, unconscious or unidentified, be given first aid in the City Hospital, that such patients be transferred to a private hospital or private home when found not to be indigent.

13. That the Social Service at the City Hospital be recreated and made to function. That as part of its service it make adequate investigation of the financial status of all patients admitted to the hospital. That adequate space for satisfactory function be arranged for. That the service be made responsible for its budget and that it conduct a satisfactory placing and case work system on the wards.

14. That no charge should be made for any service rendered in either the City Hospital or other agency of the Department of Health.

15. We recommend that indigent patients from the County be distributed among the private general hospitals at a stipulated charge per day, to be paid out of the County funds.

16. We recommend that the profession vigorously combat charity abuses so that a large part of the 25 per cent of income now given to charity, be regained.

II. MEDICAL CARE OF PART-PAY GROUP

1. It is recommended that the Society set up a part-pay plan whereby patients able to

pay a part of the cost of necessary medical care may be salvaged as private patients and the tendency to become charity-minded lessened.

The Committee is studying such a plan and expects to present its recommendations for the Society's approval soon in 1934

III. The Won't Pay Group

The Committee feels that there is a grievously large and growing group in the Community who refuse to pay for medical services. This condition can be remedied in large part by the creation of a Rating and Credit Bureau. Details of such a service are now being studied and recommendation of its establishment will be made early next year.

IV. Private Hospitals

1. The Committee feels that better business methods are possible in private hospitals The high overhead is in no small degree responsible for the high cost of medical care.

2. We think a plan of pooling supplies purchased could be advantageously worked out.

3. The Committee also believes that private hospitals should accept no indigent case unless it has an endowment fund expressly created for such purpose and would recommend that the Society get behind an educational movement to bring this about.

4. The Committee would recommend that an intelligent opposition be registered against the building of additional hospitals or enlarging present capacity in the immediate future.

V. Communicable Disease Hospital

The Committee does believe that Louisville needs a hospital for Communicable Diseases. We recommend the establishment of such a hospital for private patients. If one of the private general hospitals could be changed into a Communicable Disease Service, it would relieve the financial distress of these institutions and supply a much needed service. If this plan should not prove feasible, your Committee would recommend that the Jefferson County Medical Society favor and encourage the erection and maintenance of such a hospital.

The German Evangelical Church has been interested in a plan for building a General hospital. It is suggested that this organization be contacted by the Committee on Public Relations with the view of interesting it in the plan for a Transmissible Disease Hospital.

VI. Clinics

1. Dispensary and Clinic Abuses. There is a sufficient number of indigent sick in Louisville to afford adequate teaching facilities at the City Hospital for the Medical School and to absorb the facilities of private hospitals and the time of their staffs without adding to the inescapable number by caring for those patients who are not indigent.

It is believed that the term "Indigent" should be defined as applicable to a person who has no income from business, employment, investment or insurance, or in the case of a minor, one who has no guardian or parent with such income.

Patients able to pay a part of the usual charge for professional services should not be referred by nurses, social service workers, school inspectors or physicians to dispensaries, clinics or hospitals devoted to the care of the indigent. The Society should maintain a list at its headquarters of physicians in each section of the city who have agreed to serve as the family physician or specialist on a part-pay basis.

It is believed that, save in emergencies, a patient should not be admitted to a dispensary, clinic or hospital unless his application is accompanied by a written statement from a physician, social service worker or layman to the effect that the applicant is indigent.

Many persons believe that because they contribute to welfare agencies they are entitled to free service from the profession as a sort of preferred class.

Your Committee would recommend that the work of these agencies should be confined to indigent cases, that their activities should be merged under a central control through already existing agencies of the Department of Health of the City and the cost of their care met out of the municipal budget.

2. It is recommended that any clinic, conducted under whatsoever auspices, which does not provide for participation in whatever funds accrue from such care by the physicians associated with the clinic, should not be recognized as a part-pay clinic. So far as the physician is concerned, under such circumstances it is an indigent clinic.

3. Diagnostic Clinics. The Committee sees no valid reason for the maintenance of free diagnostic service for persons not indigent Such service, whether rendered by an individual physician, a group or under the auspices of a hospital, regardless of the nature of the disease studied, constitutes an abuse in the distribution of free medical service. Free diagnostic service, as well as free therapeutic service, may properly be rendered any indigent and it should not be the intent of the Society to limit the purely charity activities of its members.

VII. Federal Health Activities

The Committee feels that the practice of extending hospitalization and complete medical service to all civil employes under the

U. S. Employes Compensation Commission by medical agencies of the Government is subject to unlimited abuse and that such service should be limited to those suffering from disease or injury actually incurred in the line of duty. Free hospitalization and medical care by the Government for persons employed on privately owned vessels is in reality a subsidy and is strongly condemned.

VIII. Hospital Insurance

A Hospital Insurance plan participated in jointly by all of the private general hospitals of the city, thus eliminating unnecessary overhead and providing for free choice of both hospital and physician by the insured, would constitute a plan of hospital insurance which the Society might properly endorse. It is recommended that the Society use its influence in substituting such a plan for the present hospital insurance.

IX. Rating and Credit Bureau

As one of the steps necessary for the profession to take in order to change trends to which attention has been called, it is recommended that a Rating and Credit Bureau be established and maintained by the Jefferson County Medical Society.

It is suggested that this Bureau be set up in the office of the Society; that a layman be employed to take charge of this work; that the Bureau be under the supervision of the Committee having supervision of the Physicians and Nurses Register.

The Committee on Medical Economics expects to present specific suggestions concerning the care of near indigents soon and it is thought that the office of the Society should be made the Clearing House of this activity. The wisdom of the Society establishing its offices elsewhere than in the Library is a matter for thought and the attention of the membership is invited to its consideration.

X. Medical Lien Law

In Kentucky a physician attending a person for injuries or disease, suffered through the fault of some other person or corporation, cannot establish a lien for the value of the services rendered on any claim the patient may have against the person or persons by whom he was injured. Several states have enacted such laws and these are referred to as *Medical Lien* laws. Nebraska was the pioneer state in such legislation, having passed a lien law in 1927. Since that time New Jersey, Oregon, Montana, Delaware and Virginia have enacted such laws. Texas, Utah, South Dakota, Pennsylvania, Arizona, Indiana, Iowa, Massachusetts, Missouri and New York have similar bills pending.

As might be expected, these laws show marked variations in provisions and applications and to secure more uniformity and adaptability Dr. Woodward, Director Bureau of Legal Medicine and Legislation, has drafted an act covering the entire field. Among other features it provides that a physician attending a patient under given conditions may file a notice of his claim with the County Clerk. This notice makes the person or Insurance Company that may be declared liable for money as damages also liable for the professional services out of any money found to be due the injured.

It is recommended that the Society's Committee on Legislation be instructed to study this draft and to cause it or some acceptable modification to be introduced at Frankfort during the coming session of the legislature.

XI. Free Information by Physicians to Insurance Companies

Insurance companies almost habitually request all physicians who may have given professional advice to an applicant to furnish the company with information covering such service—diagnosis, gravity of illness, duration and whether recovery was complete or partial.

The Committee believes the physician should advise the Company that such information will not be furnished unless written permission by the applicant is given to do so, and further advised that a statement will be rendered for such service.

The insured's physician is often asked to make an examination for the purpose of removal of an extra rating because of previous history or impairment of health. We believe the physician's fee in such case should be paid by the insured. The same conclusion applies to examination for reinstatement of a lapsed policy. In claims for disability benefits, health or accident, the forms should be restricted to the illness or accident at issue. When information is requested relating to proofs of death from physicians who have attended deceased, but not in last illness, such information should be furnished only when written authorization by the beneficiaries is given and the Insurance Company should pay the fee.

XII. Nominating Committee

Your Committee recommends that the By-Laws pertaining to elections of officers be amended to provide for a Nominating Committee to be appointed by the President with the following provisions governing its appointment and functioning:

(a) It shall consist of five members named by the President and approved by the Society.

(b) This selection shall be done at the first meeting in November of each year.

(c) The Committee shall report its action to the Society at the last meeting of November each year.

(d) It shall be required to select two names for each elective office.

(e) The list selected shall be placed on the program issued for December each year by the secretary.

(f) This list shall be read by the secretary on call of President for nominations at the last meeting of each year, and the names so read shall be declared as nominated by the President for the respective offices set opposite their names and shall be voted on in accordance with the Constitution and By-Laws of the Society.

(g) The naming of this list shall not abridge the privilege of members in good standing to offer nominations from the floor.

XIII. Public Relations Committee

Your Committee believes that the name of the Committee on Legislation and Public Policy should be changed to Public Relations Committee. The implications of the word legislation are too obvious and the term policy too indefinite.

It is also believed that this Committee should be so organized as to provide for some continuity of service rather than to have its personnel subject to change with each new administration.

The following amendment to the By-Laws relating to this Committee is recommended;

"That the name of the Committee on Legislation and Public Policy be changed to Committee on Public Relations. That the Committee consist of six members, to be appointed by the President. That the terms of office of the first committee appointed shall be two members to serve one year, two members to serve two years and two members to serve three years; and that each year thereafter two members shall be appointed to serve three years."

As a part of the functions of this Committee it is thought that all inquiries from the press, societies, lay public, individually or collectively, should be referred to the Committee on Public Relations for reply or advice as to reply; that all replies should be in terms of "The Committee on Public Relations says or advises," etc.; that Society members who prepare a paper or address on a medical topic for publication in the press, popular or scientific magazines or to be broadcast over the radio, shall submit such article or address to the Public Relations Committee for approval before publishing, delivering or broadcasting it. The Committee should approve authentic articles when not of a nature to be self-advertising or aggrandizing. It is further believed that the Public Relations Committee should determine and make the society members acquainted with its definition of such terms as "permissible publicity," "propaganda," "public health education," etc.

XIV. Society Emblem

Inasmuch as the Jefferson County Medical Society is an incorporated body, it would seem desirable that an official seal be selected. This should appear on the Society's stationery and printed matter and replica in rubber should be in the Library to be used to stamp the emblem on its books and periodicals. Such an emblem or seal could be used by the members on their own stationery and autos.

It is recommended that the Executive Committee of the Society be authorized to select and recommend a suitable emblem to the Society for its adoption.

XV. Irregular Practitioners

The Committee recommends that a co-operative publicity campaign be carried into effect in order to restore to the profession a large part of the $233,870.00 now spent by the people of Louisville and Jefferson County for the services of cultists and quacks

XVI. Individual Business Methods

The Committee recommends that the physicians of the City and County employ an efficient system of credits and collections, thereby recovering the major part of the 25 per cent of income now lost through bad debts.

XVII. Civil Service For Physicians In City Employ

The Committee believes that a system of civil service for professional men wishing to engage in public service, whether federal, state, county or municipal, is desirable and would recommend its application to the Health Departments of both the City and County.

XVIII. Educational

1. It is recommended that the visiting staff of the City Hospital be more generally advised as to the necropsy studies in the hospital.

2. That the Hospital Executive Committee, which now selects all the resident and house staff in the City Hospital, be enlarged to include one representative each of the services recognized as specialties, general medicine and surgery in the hospital.

3. That the statistical data accumulated in the professional services at the City Hospital be made more easily available for staff study.

4. That the recommendations for appointments to service outside the City Hospital, such as the Almshouse, Campus Physician, etc., be vested in a committee rather than in a single individual.

XIX. Physicians' and Nurses' Register

The Committee on Medical Economics recommends that a Physicians' and Nurses' Register be established and maintained in the offices of the County Society.

A considerable number of the members of the Society carry subscription in one of the several exchanges maintained by laymen for the purpose of facilitating contact with the public during periods other than their office hours. The desirability for such a service seems established by the number of physicians contributing to its support. The cost per month during 1932 was Three Dollars; this charge has been reduced at the period of the Committee's report (December, 1933) to Two Dollars per month. The exchanges now maintained, apparently, find the enterprise a satisfactory one financially. The Society could maintain such a service on a service charge below that now paid by its members.

There are several Nurses' Directories now in operation. There is no need but for one. Calling nurses by physicians would be facilitated by having but one directory. The interests of physicians and nurses are closely related; it is the physician who calls the nurse. Such a register would eliminate factional tendencies and place all nurses on the same list for all the physicians. Such a register should carry a list of practical nurses and through the Society some supervision of the fitness of applicants for registry as practical nurses could be maintained.

It is suggested that the service charge per month for each trained nurse be made less than is now charged by the existing directories and that the practical nurses be charged 75 per cent of the trained nurse charge.

It is suggested that this proposed Register be under the direction of a committee composed of three members of the Society, two of whom are to be appointed by the President and the third member should be the secretary of the Society, who should also be chairman of the Committee.

XX. Proposed Code

Your Committee is not ready to recommend any particular plan to the Society now, but does express its approval of some code that will eliminate exploitation of the profession; that some of the provisions of that code should be:

"That medical treatment of any character is within the problems of the medical profession.

"That medical charity should be confined to those unable to pay and to those receiving other forms of charity.

"That the medical profession should resist efforts at exploitation for financial and political advancement of lay groups.

"That medical services should be administered on the same basis as the disposition of other commodities. When too poor to pay for housing, clothing and food, medical service should be given.

That so long as those in need of medical service are paying for housing, clothing and food they should also pay for medical care.

"That the degree to which medical charity is now being extended is not parallel with charity in any other line.

"That the profession must develop a leadership for guidance of the public into saner channels for medical care.

"That health and physical efficiency are necessities and, when at stake, non-necessities should be sacrificed for their preservation."

XXI. Specialism in Medicine

Specialism is, to a degree, an economic problem. Its solution should be worked out by the profession. Only the most ultra-conservative would deny that it is a necessary part of a growing profession. The Committee is glad to record its acknowledgement of the contributions of specialism to modern medical science and practice. Such tribute does not preclude, however, the assertion that there is great hurt done to medicine by self-named and partly trained specialists in every field. Thirty-five per cent of recent graduates are limiting their work to some specialty and they cannot have adequate broad, clinical experience. The American Medical Association is taking cognizance of the seriousness of the situation.

Your Committee recommends that a joint committee of the specialties recognized by the American Medical Association be appointed by the president to study this problem and report its conclusions to the society.

SECOND ANNUAL REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

The Committee on Medical Economics submits for your approval and disposition the following digest of its studies and activities for the year 1934.

Scope of Work

While the year 1933 was occupied largely with "case study," the year just ending witnesses a period rather replete with actual accomplishments.

There yet remain a few subjects unfinished, to which the Committee addressed itself during the year 1933 and which it was thought would be closed this year.

*Presented to the Members of the Jefferson County Medical Society at its Annual Meeting December 17, 1934.

Industrial Medicine

Another subject which has not been satisfactorily approached is Industrial Medicine. A number of things are definitely out of joint with this phase of medicine and they must be solved. Some form of Contract Practice appears to be a little short of a necessity in certain localities, but Louisville does not fit into such a scheme in the opinion of the Committee.

The House of Delegates A. M. A. in its 1934 Session defined Contract Practice in the light of 1934 conditions and made its relation to medicine in general a part of the Code of Ethics of the A. M. A. Believing it to be of interest to the Society here, the subject matter is made a part of this report. The Principles of Ethics, chapter II, article V, section 2, was amended to read as follows:

"By the term 'contract practice' as applied to medicine is meant the carrying out of an agreement between a physician or a group of physicians, as principles or agents, and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals for a definite sum or a fixed rate per capita.

"Contract practice per se is not unethical. However, certain features or conditions if present make a contract unethical, among which are: 1. When there is solicitation of patients, directly or indirectly. 2. When there is under-bidding to secure the contract. 3. When the compensation is inadequate to assure good medical service. 4. When there is interference with reasonable competition in a community. 5. When free choice of a physician is prevented. 6. When the conditions of employment make it impossible to render adequate service to the patients. 7. When the contract because of any of its provisions or practical results is contrary to sound public policy.

"Each contract should be considered on its own merits and in the light of surrounding conditions. Judgment should not be obscured by immediate, temporary or local results. The decision as to its ethical or unethical nature must be based on the ultimate effect for good or ill on the people as a whole."

Clinics

Following a rather intensive study of the clinics operating in Louisville in 1933, the Sub-Committee on Clinics concluded with the following statement, which is an extract from its report, made a part of the report of the Committee on Medical Economics for 1933:

"After mature deliberation and earnest consultation with many leaders of the profession, we believe that any free clinic except for the indigent sick is wrong in principle, as it tends to weaken the moral fiber of the public and to deprive competent, trustworthy physicians of proper employment."

In commenting on the report of the Sub-Committee the Committee on Medical Economics said:

"There exists no sound social or professional reason for the operation of a free diagnostic clinic for cancer. * * * An educational campaign for the public is permissible, even desirable, but a free diagnosis is not a desirable feature of an educational campaign. * * * * Free diagnostic study for a person intelligent enough to accumulate a competency is not a necessary form of an educational campaign. Free diagnostic service to those able to pay, whether rendered by an individual physician or a group under the auspices of a hospital, constitutes an abuse of free medical service."

Your Committee still entertains these views.

In connection with "Groups and Clinics," the attention of the membership is called to the revision of Chapter I, Section 11, of the Principles of Ethics of the A. M. A., adopted by the House of Delegates at its annual meeting in June 1934. This section now reads as follows:

"The Ethical Principles actuating and governing a group or clinic are exactly the same as those applicable to the individual, as a group or clinic is composed of individual doctors, each of whom, whether employer, employe or partner, is subject to the principles of Ethics herein elaborated; the uniting into a business or professional organization does not relieve them either individually or as a group from the obligations they assume when entering the profession."

Closely allied with free diagnostic clinics is another perversion of professional service erroneously called Part-Pay Clinics. Such a clinic is in no sense a part-pay service so far as the physician is concerned. Only the institution maintaining such a clinic receives pay. Your Committee believes that no clinic should be called a part-pay clinic unless and until the physicians serving such a clinic share in whatever pay the patient is able to make.

Your Committee recommends that necessary steps be taken to secure the cooperation of those interested in these clinics in discontinuing free diagnostic service except to the indigent on the one hand and participation in so-called part-pay clinics where physicians do not participate in fees collected.

Crescent Hill Child Health Conference

The attention of the Committee was called to this activity only recently and it was referred to the Sub-Committee on Clinics for study, and its report follows:

"They are operating what is known as the Crescent Hill Child Health Conference. This is sponsored by the Crescent Hill Woman's Club, directly under the supervision of Mrs. R. Cary. The time allotted for this work is the first and third Thursday afternoon of each month. There is a physician in charge who serves this organization gratuitously. All of the lay workers are voluntary in nature and are furnished from the personnel of the Crescent Hill Woman's Club. There is no selection of children for examination and health advice and those who present themselves are treated without any regard to distinction. In the event of any irregularity presenting itself in the child examined, he is referred back to his family physician for treatment.

"It was also learned that the physician who was doing this work was Dr. James Blackerby. Dr. Blackerby recently left the city and as far as could learned, no one has been appointed as yet to take his place."

(Signed)
Sub-Committee on Clinics,
By B. W. Smock.

Tuberculosis

Activities of Existing Agencies and Tuberculosis Problems.

In the Committee's Report for 1933 it was stated that we found a very definite lack of a spirit of cooperation on the part of the Board of Tuberculosis Hospitals and Dispensary. Flat refusal to give the information requested in the questionnaire submitted by the Sub-Committee in 1933 was encountered. This was the only refusal the Committee met in all its work. The belief that conditions would obtain during the year which would result in a more satisfactory liason was entertained by your Committee and the chairman of the Sub-Committee was advised to stand by. For reasons satisfactory to all concerned the personnel of the Sub-Committee was changed at this time.

By April, 1934 the Tuberculosis Board's attitude had changed from that of assertion that the J. C. M. Society had no privileges beyond any other group of taxpayers to an "appreciation of your interest in the tuberculosis work in Louisville and Jefferson County." The data obtained consisted of (1) complete answers to our questionnaire, covering both the Sanatorium at Waverly Hills and the dispensary at 235 E. Chestnut Street, City, and (2) the Medical Reports for 1933 from both of these agencies. The originals are filed herewith and may be consulted in the Library of the County Society by such as desire to study the material at first hand.

A summary only is here given for your immediate consideration.

(a) Waverly Hills Sanatorium is operated under a charter granted by the Legislature in 1906, by a Board of 10 members appointed by the Director of Health of the City and County Judge and is financed by an apportionment from the tax levy on the City and County. The City allots five cents of every $2.20 taxes collected for the maintenance of the Sanatorium. The annual budget for 1932 was $530,638.00. The professional personnel consists of

1 Medical Director.
6 Senior Resident Physicians.
3 Junior Resident Physicians.
1 Interne.

Ten of these are full-time men and do not maintain offices for private practice. The part-time man maintains an office for private practice and does not confine himself to tuberculosis surgery.

A total of 76 nurses are employed and rated as follows:

1 Superintendent of nurses.
9 Supervisors.
8 Post graduate nurses.
66 Practical nurses.

The post graduate nurses are considered in training and receive only maintenance.

There are 2 laboratory technicians and 2 X-ray technicians. All of these serve on a full-time basis.

There are 148 non-professional employes. No social service worker is employed. The monthly payroll is $12,137.53. The bed capacity is 500. Average daily attendance of patients (1932) was 477. This represents a bed occupancy of 95 per cent. Number of patients daily (1932) 477. Number discharged (1932) 438. Deaths, total, (1932) 97. Deaths, percentages (1932). 26.9 per cent. Classification on Discharge:

Arrested, per cent,	3
Arrested, apparently, per cent	12.7
Quiescent	12.5
Improved	23.8
Unimproved	11.9
Untreated (remained less than 30 days)	9.2
Dead	26.9

The average length of stay in the Sanatorium was 339 days. The cost per bed per day was $2.26.

Total X-ray films 3,162.

The statistical data was given for 1933 rather than 1932 and is tabulated in this report for rapid study.

TABLE I

Showing Statistical Data of Waverly Hills Sanatorium for 1933.

Total patients in Sanatorium December 3, 1933.	497
Average patients per day	488
Total Hospital Days per month	14,862
Total Hospital Days per year	178,339
Total Hospital Days on Discharged Patients	171,565
Average length of stay (Days)	339
Total adults discharged and died	421
Total Children Discharged and died	85
Total for year	506
Deaths, Adults	116
Deaths, Children	0
Total adults	116
Total White (Adults) admitted	320
Total Negro (Adults) admitted	114
Total admitted	434
Total White Children admitted	66
Total Negro Children admitted	22
Total (Children) admitted	88
Admissions, Grand Total,	522
Carried over from December 31, 1932	481

No attempt is made to determine the financial status of a patient and no report is made to physician in attendance on a patient prior to admittance unless requested.

The number of deaths from tuberculosis for every fifth year for the last 20 years is given as shown in Table 2.

TABLE II

Showing Deaths from Tuberculosis for every Fifth Year Covering the Past Twenty Years.

Years	Deaths	Rate per 100,000
1912	672	250.5
1917	621	221.5
1922	435	143.5
1927	417	123.8
1932	295	79.6

WAVERLY HILLS TUBERCULOSIS DISPENSARY

This Dispensary is maintained at 235 E. Chestnut St., City, and is operated by the Board of the Waverly Hills Tuberculosis Hospital. It is financed from City and County taxes and has a rather complex parentage—charter, ordinance, Board ruling and individual control.

The Director is a physician appointed by the Board on a salary basis and he is called an all-time employe, though he maintains a private office. The rest of the medical staff are carried as part-time employes. Eight nurses and three non-professional employes are carried on the pay rolls. The medicines for patients are purchased through the Sanatorium. All laboratory work is done at Waverly Hills at no cost to the patient. The X-ray studies are made at the dispensary, a charge of $1.00 to $2.00 is made and collected when possible. 2,168 films were made in 1932 and 8,545 tuberculin tests done, about three-fourths of which were negative. It is stated the family income is noted on the dispensary record, but no income level is observed in admittance and study. An average of 30 patients are seen daily and 2,553 were examined during the year. 67 per cent of the whites were charted as negative and 53 per cent of the negroes. Of the whites an additional 14 per cent and of the negroes 21% were classed as provisional. 577 White High School students were X-rayed and 294 at the negro High Schools. 276 nurses and 167 medical students were tuberculin tested. 25 per cent of white children and 44 per cent of negroes reacted positively to the tuberculin test. Of the medical students more than one-half were positive, while only one-third were positive in white orphan homes and less than one-third in the negro high school group.

It is recorded that 10,968 were registered in the dispensary in 1932, which represented an increase of 1,412 over 1931. 3,824 were discharged and 115 died.

Health Examination Service in industrial plants was begun in 1924 and is still carried on. This is apparently another "demonstration." In addition, requests are made by concerns for examinations of their employes. All of this is done by physicians paid out of the funds of the Association.

COMMENT: Careful consideration has been given to the Sub-Committee's suggestion that a "scaled small fee plan" should be inaugurated at Waverly Hills. We are of the opinion that there are enough tubercular indigents to fill the Sanatorium. We are also of the opinion that cases with closed lesions who are not a contact risk, should not be kept for long periods when the beds had better be occupied by open, active cases. We are convinced that tuberculosis can be cared for in the home satisfactorily and do not find ourselves in accord with the apparent attitude of lay members of the Board that all cases of tuberculosis should be sent to Waverly. Nothing save isolation can be had at the Sanatorium which is not available in the middle and upper privileged groups. We would also take issue with the therapeutic wisdom enunciated in the paragraph which states, "For those individuals well able to finance their own treatment it has been customary to refer them to *Climatic Resorts.*" Climate, as such, is a fetish which even "the lands of perpetual sunshine" no longer invoke.

We also feel a curious interest in the

statement that, the "average length of stay at the sanatorium in 1932 was 339 days." This becomes more interesting when one finds that on classification on admission from 11 to 7 per cent of white adults were "negatives" and none far advanced, and further that the prognosis is stated as good in 37 to 48 per cent of children and none unfavorable on admission, while a varying per cent, from 6 to 12, remained in the institution less than 30 days.

We quite agree with the Sub-Committee's statement that the work done on school children by the Tuberculosis Association "can no longer be considered a demonstration." 9,172 white school children were tuberculin tested and X-ray study done on 577 in this same group. Since 25 per cent of patients seen at the Dispensary were referred by physicians, it would seem that if some of the "demonstration" now being done in the schools were done among physicians, the larger part of patients would soon pass through the hands of physicians. Were this accomplished, the 67 per cent of white negatives on examination might be much reduced. It does seem a high per cent of needless work.

The questionnaire states that patients are not now admitted who are not residents of the City and County. Your Committee is gratified to learn that admission from out in the State has been discontinued. It would seem it was an unauthorized policy and particularly deserving of condemnation when the beneficiary was not indigent.

The Committee is in complete agreement with the statement of the Sub-Committee that tuberculosis can be both diagnosed and treated in the home. And attention is also invited to its reminder that there are private hospitals where facilities are available for the tuberculosis patient when conditions are not satisfactory in the home. We would repeat the statement, "the fact that one has tuberculosis should not, automatically, place one in the position of being a charge upon the state."

In an analysis of the study of the tuberculosis problem one of the members wrote that accepting the statement that:

"Tuberculosis is a public health problem, the deduction that all cases of tuberculosis should be under either sanatorium or dispensary treatment, regardless of the patient's financial status, thus excluding the whole profession except those connected with the sanatorium or dispensary, would logically lead to the position that all transmissible diseases are public health problems, to be cared for by public health agencies, again to the exclusion of the rest of the profession."

Another member in commenting on the rather large waiting list for admission to the Sanatorium inquires if the patient is less a menace because of care by the staff of the Dispensary than if under the care of a private physician.

The entire Committee believes that a level of ability to purchase medical care should be established and maintained. This would make room for the less fortunate who must remain a public charge. This seems to accord with the statement of one of the Board of the Association, who stated a few days ago in the local press that in 1907 the first dispensary for the *free examination of those unable to pay* was opened and that Hazelwood was built the same year for *indigent patients*.

The Committee is impressed with the stated low cost per patient per day. This is, indeed, a cheering contrast with the average cost in private general hospitals in the city, which was found to be $4.07 for the same year. In some of these private hospitals the cost was as high as $6.95.

Your Committee believes that the so-called Health examinations in industrial plants, as well as the examinations made in schools, should be discontinued. The examinations made in industrial offices and plants has about the equivalent value of an ordinary life insurance examination and certainly extends in directions well without the zone of tuberculosis and the written advice an immature gesture.

We believe that the activities in the tuberculosis field constitute the greatest offense to medical service in our community. The situation here is in keeping with the policies fostered by the National Tuberculosis Association, from which the local organization gets its literature and publicity schemes. If our memory is correct, was not John A. Kingsbury one time secretary of the National Tuberculosis Association and now the Secretary of the Milbank Memorial Fund, which with the Macy Foundation financed the $1,000,000 Committee on the Costs of Medical Care? And is not Dr. Livingston Farrand, President Cornell University, also Chairman of the Milbank Memorial Fund's Advisory Council, and has he not recently said:

"It is now clear that the financial relation between the patient and his doctor is increasingly and dangerously ineffective in providing a large proportion of the public with the medical care to which it is entitled and which it must have."

We find the names of neither in Who is Who in Radicalism, but we do find the name of Edward A. Filene, the founder and presi-

dent of the Twentieth Century Fund. He was a member of the Committee on the Costs of Medical Care. We also find that C. A. Winslow is a member of the Advisory Council of the Milbank Fund and that when he referred to the address of Harry Hopkins at the 12th Annual Conference of the Advisory Council of the Milbank Fund (1934) he said, "I don't suppose any of us treads as lightly and as confidently with him as we did in the old days when we met him face to face just as if he were one of ourselves."

The new Committee that rose Phoenix-like from the ashes of the Committee on the Costs of Medical Care in January 1932 is financed by the same groups that financed the old Committee. It numbers among its members or supporters men engaged in public health work, men occupying chairs of economics in Universities, Social Service workers, etc. All of them are on salary; many of them are laymen. They all want to set up an administrative control of medical service with lay members in key positions and determining how physicians shall work, what they shall be paid and other details. If you have any curiosity about the convictions of many of the folks now working to control your profession, just take a peep in some authentic book listing the Reds and Pinks of this country. If you are interested in learning how far the work has gone in the matter of encroachment on private enterprise, private initiative, private capital, take time to read the Shannon Committee Report. At the meeting of the Advisory Council of the Milbank Fund in March 1934, Albert G Milbank said:

"We are accustomed to define public health in too narrow terms. In its broader sense it means the health of the public, which in turn, means *medical care of all kinds, both preventive and curative, for all of the public.*"

The definite trend of the day is to make medical care a governmental function and train the public to accept medical service as a gratuity. Medicine is sharing the disposition to live at the expense of the state. The Judge of this Federal District said of the Federal Emergency Relief work last week:

"The shameless cupidity of men leads them to shamelessly ask for and take that to which they are not entitled. Every undeserving person now on the relief rolls got there by misrepresentation. Such cases constitute a fraud on the Government."

Had he had in mind the medical situation he could have spoken no more accurately.

The overhead set-up of this institution appears top-heavy. There is a Director of the Hospital, a Business Director and a Director of Clinics, all functioning under a Board whose Chairman functions as a sort of overlord; and then there has been set up a sort of super Director who functions as an advisor though hundreds of miles away. This sort of management would not appear incongruous where an institution with a bed capacity of 500 beds represented private capital and where the patients were affluent and paying the overhead. In a tax-supported institution, presumably for the indigent, the taxpayer's pocketbook groans a remonstrance. Your Committee can see no reason for a Chairman of a Board and a Business Manager both on salary. These two offices might well be combined and at no sacrifice of efficiency. The Chairman of the Board may be worth $2,700 per year, but not to the Tuberculosis organization.

It is not known what the salary of the Business Director is nor does it appear what honorarium is given the Advisor from the Adirondacks. The salaries paid the Directors of the Hospital and Clinic would appear to be large enough to command talent not in need of the advice of the head of a private institution.

Your Committee thinks that both Waverly Hills and the Town Clinic should be conducted for the indigent tubercular. There would appear no objection to extension of this care to the lower bracket of non indigents when the case was a frank active open one and especially if there were children where the home was crowded and children slept in the same room with parents. There are enough of such to fill the hospital and keep the Clinic engaged. The public thinks of the hospital at Waverly Hills as a charity hospital; it was built by bond issue, as was the City Hospital, and whether its charter was so drafted by accident or design that it can be made to function as an asylum for the sick, financially able to pay for their care, but who prefer to get their care at the expense of taxpayers, most of whom are no better off than the patient, is not germane.

Cooperative Clinical Study Between Tuberculosis Workers and Volunteer Members of the County Society

During the summer of 1934 a series of clinical studies emphasizing diagnosis of diseases of the pulmonary system was participated in by the physicians working at Waverly Hills Sanatorium, the Town Clinic and at Hazelwood and a group of members of the Jefferson County Medical Society. Some 75 physicians enaged in private practice availed themselves of this opportunity for intensive study. The Groups alternated for definite

periods at each of the tuberculosis centers. The work did not continue for as long a period as the Committee on Medical Economics had in mind when the plan was developed.

It is recommended that the work be repeated during 1935. It is also recommended that a definite program be worked out in advance and announced on the Bulletin of the County Society. It is the opinion of the Committee that there should be a broadening of the program scope to include the diagnosis and management of tuberculosis of organs other than the respiratory system. This would mean enlisting Eye, Ear, Nose and Throat men, urologists, proctologists, pediatricians, general surgeons, pathologists, etc. A real post graduate course could thus be worked out which would interest nearly the entire Society membership.

PUBLIC HEALTH SERVICE

(a) City Health Department

Your Committee has maintained satisfactory contact with the present Department administration. An understanding by the Director of the ideals and objectives of the Committee became our concern on his taking office. The result has been gratifying.

In February (1934) following the receipt of a statement of policies by the Director, the Committee on Medical Economics introduced the following resolution, which was unanimously carried:

"Recommendations for Coordinating Official and Professional Preventive Medicine:

"The Committee on Medical Economics recommends,—

(a) That the Jefferson County Medical Society recognize the spirit of cooperation evidenced by the Heads of the Department of Health of the City of Louisville and Jefferson County in the conduct of their respective fields of Preventive Medicine;

(b) That the Society acknowledges its concurrent responsibility in this field;

(c) That the citizenry of the city and county be separated, roughly, into three groups;

I. Those unable to pay for necessary medical care.

II. Those able to pay for some part of any necessary medical care.

III. Those able to pay for all necessary medical care.

(d) That it shall be the duty of the Departments of Health to provide necessary professional and institutional care for Group I at the expense of the taxpayers. The members of the J. C. M. S. agree to provide necessary professional care for Group II on a basis of equitable pay determined by the resources and liabilities (income) of the group member. The members of the Society will care for Group III on a basis wholly determinable by the medical attendant and the group member.

(e) In order to facilitate the proposed service to Group II the following set-up be approved:

A roster of members who are willing to serve Group II be kept in the office of the secretary of the Society. Applications for medical care by persons determined to belong to Group II, made either by the Departments of Health or the County Society, shall be referred to a designated member whose name appears on the roster for medical care. If the request is made directly to a member of the Society who does not now want to participate in this Part-Pay Plan, such a member may refer the applicant to the office of the secretary, to be handled as if the request had been made direct to the Department of Health or the office of the Society. It is understood that this Roster is to be a part of the activities already provided for by the Society when it established a committee to supervise a service for doctors and nurses.

(f) That in making effective the Society's participation in the field of preventive medicine it is recommended that it be recognized that uniformity in methods of doing preventive medicine, such as tests for susceptibility, reading reactions, immunization, dosage, etc., is desirable. And, further, that it be recognized that records uniformly and accurately made should be on file in the offices of the Departments of Health, hence the members of the Society agree to cooperate in the making and keeping of such records.

(g) Finally, it is recommended that an organization meeting be held at a suitable time and place, to be participated in by representatives of the Departments of Health and the members of the Society for the purpose of working out details of this plan."

The meeting provided for in the Resolutions was held on February 28, 1934, with some 75 members participating. At this meeting it was agreed that persons not indigent were to be tested and immunized by physicians in private practice, the physicians of the Departments of Health to care for those determined as indigent.

A conference during the summer resulted in an agreement that the private practitioners participate in the proposed examination of food handlers, a nominal sum to be paid by persons examined.

Some improvement has been noted in conditions of practice at the City Hospital during the year. The Social Service was reorganized and after a preliminary study under a fund appropriation from the C. W. A., the work of determining gross fraudulent

claims for free medical care was begun. Such as were found to be able to pay a part of costs of necessary medical care were referred to the Part-Pay-Plan office of the Society. While commending the work of the group now investigating the admissions at the City Hospital, your Committee would call attention to definite weakness yet obtaining in the Social Service set-up. Let one instance suffice as an example, as well as constituting the Society's warning,—the obstetrical service continues to run at a nearly 100 per cent occupancy.

No investigation is made or permitted of applicants for obstetrical service touching their financial status. These patients can be investigated at the time when they appear for prenatal care and your committee insists that this be done in good faith.

The Social Service Department has issued monthly statements of its activities and a summary is appended.

LOUISVILLE CITY HOSPITAL

DEPARTMENT OF ADMISSIONS

June 1, 1934-November 30, 1934

The Department of Admissions submits the following report for the period extending from June 1, 1934, through November 30, 1934:

TABLE IV

Patients interviewed	5112	Patients not interviewed but admitted (Morgue-new-borns-county patients)	660
Patients interviewed but not admitted	228		
Patients interviewed and admitted	4884	Total number of patients admitted	5544

Number of patients admitted; number of patients refused admission and referred elsewhere; number of contracts written; amount of contracts written; cash received; for June 1, 1934 to November 30, 1934, inclusive:

	June	July	Aug.	Sept.	Oct.	Nov.	Total
Total No. pts. admitted	887	885	1060	877	917	918	5544
Total No. pts. refused admission	22	19	32	38	53	64	**228**
Total No. contracts signed	98	174	259	92	87	**92**	802
Total amount of contracts	583.00	758.03	1347.51	571.74	628.56	539.09	4427.93
Total amt. of cash received	300.00	455.99	416.35	311.78	482.26	665.44	2631.82

OBSERVATIONS AND RECOMMENDATIONS

"The Department of Admissions was inaugurated June 1, 1934. The Department has made monthly studies for the past six months of patients recommended for admission to the hospital wards only. These patients come from various parts of the United States and from Canada. Although a few are financially ineligible, the great majority are in straightened circumstances. This does not mean, however, that a large number are unable to make some payment for their care in the hospital or are unable to be referred back to their own physicians. A few of the interesting facts and problems which these patients present are herewith stated.

The indigent non-resident who is ill presents a discouraging proposition. The Department refers him to his county health officer or county judge, but these officials write us to discontinue this practice. Since the counties, so they say, are unequipped to give medical attention to the indigent ill, requests for hospitalization from these persons in the state are being received. In most cases they state nothing is being done for them in their home counties. Therefore, for those who do not live in the City of Louisville, the only alternative is to return to their legal residence where no medical aid is forthcoming. This, of course, does not apply to Jefferson County.

Non-resident emergencies are being left at the hospital's door continuously without even being administered first-aid, even when one hundred miles or more must be covered before they reach City Hospital. The chief instigators of these schemes for shifting medical responsibility from these counties to the Louisville City Hospital are the county officials, physicians, and undertakers. This hospital has long been thought of as the catch-all for the ill of the state at large.

Employers of smaller groups are very willing to shove their responsibility for indigent employees on City Hospital whenever they can get by with it, and they, as well as the indigent parties, are loath to impart information which may mean expense to one or either of them. Automobile accident cases are very numerous. Few of these involved in such cases are willing to make any guarantee whatever for hospital fees until proven they are liable.

The Federal government is being billed, sometimes successfully, for their employees: World War veterans, members of the Civilian Conservation Corp, etc. Such cases present various problems and are time-consuming.

Few private physicians realize that they, themselves, are to no small extent responsible for losing their patients to the charity hospital; that it is they who are acquainting those patients with free medical care. Patients who have never before asked aid of any charity

organization in the city, are coming to us "because my doctor told me to." The private physician also creates a great problem by failing to refer their patients to the hospital during clinic hours. Some of these same patients could be returned to their physicians after a clinic consultation.

The applicant who is financially ineligible for City Hospital care is the only one on whom the Part-Pay-Plan may be brought to work effectively. In many instances he considers himself unable to afford private medical care at the cost which has customarily prevailed. Often this is the first time he has applied for free care and he frequently offers to make the hospital a "donation." If the care he requires can be brought within the price range he is capable of financing, he is usually willing to work with us on the Part-Pay-Plan basis. The only obstacle is hospital costs. These have not yet been brought down to the point at which these people can afford a hospitalization of from two to three weeks. The costs of medication, laboratory and operating room fees added to the bed rate and the possibility of special nursing, accumulate to a total staggering to him.

As has been stated before, the Department has not extended its services to any of the clinics except for a brief experimental period in the Prenatal Clinic. But this experiment, together with the high percentage of contracts made by those patients after their admission, indicate that many can be referred to private physicians early in the pregnancy. The Pediatric Clinic also offers numerous opportunities for referrals to private physicians, as here too, the percentage of contracts written is high. The Department feels that the two above-mentioned clinics present especially good opportunities for the extension of the investigation service in the Out-Patient Department.

Granted that this period of study has been brief, the Admissions Department feels justified in making the following recommendations:

1. That a close working relationship between the members of the Jefferson County Medical Society and the Department of Admissions be developed.

2. That a twenty-four-hour investigation service for house admissions be established.

3. That the investigation service be extended to the Out-Patient Department.

4. That the State Health Department make provision for the medical care of the indigent sick in their respective localities.

5. That there be instituted a unified educational campaign urging care by private physicians in cases of pregnancy.

Respectfully submitted,
(Signed) Margaret Terry Gordon,
Admitting Officer."

The Annual Report of the City Department of Health for the year ending August 31, 1934, has been studied by your Committee. The work done in the Divisions of Inspection of Meat, Milk, Food, Sanitation, Child Housing, Industrial Hygiene and Plumbing appears to be well done and is commended. Such activities constitute proper, undisputed Public Health service activities.

The report of the Epidemiology and Vital Statistics is interesting and valuable. Only by detailed analysis and records of such activities as a City Health Department can full utilization be had by the profession or the Department.

One of the evident weaknesses in the Vital Statistics work is recognized and, it is hoped, corrected. In the Section on Health Conservation Contest, however, is noted the apparently inevitable trend of most Health workers. After stating that Louisville had for four years entered this contest and in 1933 moved into 8th place among cities of its class, the report in its analysis of the City's rating, urges that larger groups of school children should be examined, more home-nursing visits should be made, more periodic physical examinations of adults should be done and more money spent on the Public Health Budget. Public Health service, strangely, develops a craving for extension, a hunger for bulk, a thirst for publicity.

One cannot help recall the aphorism of Hogarth:

"A doctor is not made a better man by making him more of a civil servant and less of a doctor; there is something inherent in officialdom which freezes the genial current of the soul."

Recently, the recommendation for an addition to the present City Hospital has come from the Department of Health. The crowded quarters of the Out-Patient Department of the City Hospital was emphasized in the Report of the Sub-Committee on the City Hospital for 1933. The Committee on Medical Economics approved that portion of the report. It does not, however, approve the expenditure of $300,000.00 now for increased facilities. The original cost of the hospital was met by a bond issue of $942,000.00 and provided a bed capacity of 467. Such expenditure $300,000.00 equals, roughly, a one-third increase of present facilities. We do not believe so much is needed. If the Part-Pay Plan is followed intensively, some relief can be had; when the present economic depres-

sion is ended, another block of relief will come. Then something could be done about the present facilities. The bed capacity of the medical service is 120 and there is but a 50 per cent occupancy; the bed capacity of the pediatric service is 120 and enjoys only a 70 per cent occupancy. Only the obstetrical service runs to near capacity and its occupancy merits criticism. With wards but little better than half filled it would appear a matter of readjustment as well as building. The hope that the federal government may aid through some alphabetical legerdemain is expressed, but will the taxpayer remember the federal government is an inexorable creditor and pay day must come.

The Committee would call attention at this point to the growing tendency toward hospitalization of the poor in both the City and County. Some of it may be necessary; a part of it may even be economic. But we are persuaded that a sizable percentage of hospitalization is neither. An inquiry made of the County physicians revealed the fact that relatively few of their obstetrical pay-patients were delivered in a hospital. The taxpayer witnesses the birth of his babies in his home, but he is called on to furnish a delivery room and internes and trained nurses for the improvident neighbor. Here, again, the laymen who are trying to manage the physicians' business are in evidence.

(b) County Board of Health

The County Board of Health has made a report of the first five months of the work of the present administration and the Committee on Medical Economics has made a careful study of the data.

It has followed the plan of cooperating with the physicians in the County and, as a consequence, a substantial sum has been made a part of their income. It has also made provision for hospitalization of some of its cases in private general hospitals. This helps the private hospitals which say they are running in the red and also makes more room for the sick indigent of the city for whom the city hospital was built.

The Committee's judgment concerning the work of the County Health Office is appended:

October 29, 1934

Dr. John D. Trawick,
County Health Officer,
Heyburn Building,
Louisville, Ky.

My dear Doctor:

The Committee on Medical Economics of the Jefferson County Medical Society has studied the first report of the Jefferson County Board of Health. This covers only the first five months of the year, but it gives a clear concept of the activities of your office for the period.

We are prompted to comment especially on two phases of your work, since they serve as indices of the general policies which are to govern the activities of the County Health Office during your incumbency.

(a) We note with keen interest the cooperation of your office and the physicians in the County. By such a liason the members of the profession who are practicing in the County are being made a very helpful auxiliary in Public Health work. By using them in the care of the sick also it seems to us your office can effectively utilize their knowledge of the financial ability of those being attended and thus protect the tax payer from furnishing medical care to those able to procure it through their own resources. They can do this much more satisfactorily than a social service set up and without cost.

(b) We are pleased to note your co-operation with the Jefferson County Medical Society in its policy concerning medical service to that part of our people who are not indigent. The Society, as you know, has defined indigency for its purposes as a term to be applied to one "who has no income from business, employment, investment or insurance, or in case of a minor, one who has no guardian or parent with some income."

The Society has recognized that a part—an undetermined part—of our people are neither indigent nor affluent and it has set up machinery to render adequate medical care to this group. The blank form to which your office requires signature declaring inability to pay for medical care is heartily approved by this Committee. We hold such a declaration to be imperatively necessary, whether the medical care be directed to the end of regaining health or preventing sickness and this Committee, by authorization of the County Society, is committed to an active opposition to a contrary policy by Public Health Agencies.

Committee on Medical Economics,
Jefferson County Medical Society,

HOSPITAL INSURANCE

Report of Sub-Committee on Hospitalization Insurance

"Your Sub-Commtttee on Health and Hospital Insurance would like to refer you to its report at the end of the first year's work, viz., the annual meeting of 1933 made at the last meeting of that year. There having been no changes in the situation locally, your committee sees no reason to modify its report as of that time, except as follows:

We believe that in addition to a passive recognition of the type of hospital insurance

outlined as being acceptable, we might go a step further to the definite advocacy of such a plan, and advise that the Jefferson County Medical Society may well throw its influence distinctly in favor of the plan. The plan which was outlined as acceptable to your committee is hereby quoted in part, from the previous report referred to:

"1. That the plan be a community proposition open to all reputable hospitals, controlled by the hospitals, and conducted for public service and not for profit.

2. That all the private hospitals of the community, both open and closed, embrace the plan. Otherwise the subscriber—the patient—is hampered in that free choice of hospital and physician which should be his. Any infringement of this freedom of choice is not to be condoned by medical organizations.

3. That the hospitals furnish a uniform service and a uniform charge agreed upon among themselves and definitely and clearly specified in the agreement with the subscribers; in this way any competitive feature is removed as between hospitals; and the patient (subscriber) is insured of the same degree of service in whatever hospital he may choose.

Your committee believes that a Group Hospitalization plan conforming strictly to the above essentials can be recognized by the Jefferson County Medical Society as not being antagonistic to the interests of the profession. We see even that certain obvious advantages might accrue so long as such a plan is kept strictly within the limitations outlined above.

At this time your sub-committee wishes to recommend that the Jefferson County Medical Society officially urge the hospitals of Louisville to abandon all individual hospital insurance plans now being promoted. And we also recommend that the hospitals be urged to set up, through the Hospital Council, an organization for the promotion of a Community Hospital Insurance plan in conformity with the principles laid down in this and our previous report. For this purpose we suggest a careful study of the principles involved in the Cleveland plan.

Signed Sub-Committee on Hospital Insurance."

The Committee on Medical Economics approves the conclusion and recommendations of the Sub-Committee. It believes, in addition, that there should be some indicated income level above which hospital insurance should not be sold. The primary object of a hospital insurance plan should be to render hospital service when actually needed to an income bracket which would find it either difficult or impossible to finance a necessary hospitalization period. Those in an income bracket able to finance such a period should be expected to pay full value to service rendered. In its report of 1933 the Committee urged that private hospitals not enjoying an endowment should not carry an indigent group since the care of such a group must be financed from funds paid by that group paying its way. The plan of admitting no indigents, of carrying a part-pay group on a group insurance basis and of charging the upper financial bracket full value enables a hospital to help carry the burden of public service without penalizing those able to pay.

Reference is made to the plan now in operation in Cleveland. The following is a condensed statement of the salient features of that plan.

CLEVELAND HOSPITAL SERVICE

Number of hospitals affiliated	14
Annual Rate:	
Ward service	$7.20
Semi-private room	9.00

Physical Examination not required.

Males and females both insured.

Members of an employe's family not included.

Service rendered to 21 days of any one year.

Service includes board, general nursing service, technical X-ray service, operating room service (including anesthesia when administered by salaried employes), routine laboratory service, ordinary drugs and dressings.

It does not include ambulatory service, out-patient treatment, mental diseases, maternity cases, pulmonary tuberculosis and acute transmissible diseases nor industrial compensation cases for which hospitalization is provided, nor professional services of physicians other than resident staff and salaried pathologist.

A semi-private room is defined as meaning a room containing not more than three beds. Ward service is defined as meaning a room with four or more beds.

Hospital service rendered only on recommendation of a licensed physician and terminates on his advice.

Participating hospitals receive $6.00 per day for semi-private room and $4.50 for Ward.

Administration of the program is vested in the Cleveland Hospital Service Association, Incorporated.

This corporation has sole charge of sale of contracts, collection of fees and distribution of funds among the several hospitals.

Deficits at the end of any accounting period are apportioned among the member

hospitals on basis of number of days of service rendered by each.

Surpluses at end of any calendar year are held for the benefit of subscribers.

Actuarial data:

850 days of hospital care required per 100,000 persons per annum. This is equivalent to less than one day of hospital service per annum per subscriber.

Any hospital may withdraw from participation on 90 days notice, but is still subject to an obligation on unexpired service contracts.

The association can be terminated by two-thirds or more of the participating hospitals on 90 days notice.

* * * * * * *

It might appear that the provision made for a hospital to receive $6.00 per day for a semi-private room bed and $4.50 for a ward bed is rather liberal, but when it is noted that the hospital furnished operating room service, including anesthesia, if given by a resident interne, ordinary drugs and dressings as well as technical X-ray service, the allowance is none too liberal. It is further noted that if there be a surplus earned during the fiscal year by the Association of Hospitals it is to be used for the benefit of the subscribers, not the hospitals. The annual cost to the subscriber is based on actual experience. Less than one day of hospital service per year is claimed by each subscriber. Since the subscriber pays $9.00 and $7.20 per year for this hospital service and since the hospital received $6.00 and $4.50 per day for each subscriber patient bed-day, it follows there should be no deficit if the overhead be sensibly managed.

The following set up is recommended:

1. That the private general hospitals of Louisville be asked to unite in a plan for periodic payment plan for hospital care.

2. That the administration of such a plan be vested in a corporation not for profit, to be called "The Louisville Hospital Service Association."

3. That subscription sold shall be honored by any hospital belonging to the Association.

4. That the subscription contract be uniform and the service rendered be identical in all hospitals.

5. That an income bracket be adopted; the upper level not to exceed an income of $250.00 per month for a family of two, with $50.00 additional for each dependent and an income of $125.00 per month for unmarried persons.

6. That only the subscriber is eligible for the service covered by the contract.

7. That males and females alike be eligible.

8. That service be rendered only on recommendation of a physician and be terminated on his advice.

9. That the subscriber be guaranteed free choice of physician, provided only that he be a licensed physician in Kentucky.

10. That contracts shall be sold only to bonafide residents of Louisville and Jefferson County.

11. That all surplus accruing to the Association shall be used for the benefit of the subscriber, but not by cash payment.

12. That the plan shall become effective when and if three or more of the private general hospitals affiliate.

13. That the Committee on Medical Economics be authorized to undertake the establishment of this activity in accordance with the general principles outlined.

PHYSICIANS EXCHANGE AND PART-PAY PLAN

The initial step in the development of the plan for a Physicians Exchange and Part-Pay Plan was taken on February 5, 1934, when the recommendations of the Committee providing "for co-ordinating Official and Professional Preventive Medicine" were unanimously adopted. (See page 26, Public Health Service, Committee Report, 1934).

The policies for the operation of the Exchange were agreed on, arrangements made with the manager of a Physicians Exchange already in operation, contracts with the Telephone Company were all completed and announced to the Society May 21, 1934. The Exchange was opened June 1, 1934.

Purposes, Rules and Regulations For the Part-Pay Plan, Jefferson County Medical Society

The Jefferson County Medical Society adopted a Part-Pay Plan May 21, 1934, and placed its operation under the supervision of a Committee on Physicians' Exchange, Part-Pay Plan and Credit Rating Bureau. The following regulations have been agreed on after conference with the Committee on Medical Economics and the Officers of the Society.

I.

Only members of the Jefferson County Medical Society are eligible to participate in the privileges and responsibilities of the Plan and such participation is entirely voluntary, notwithstanding the conviction that support of the Plan is a professional obligation of every member.

II.

Only members of the Jefferson County Medical Society who have subscribed to the Physicians' Exchange will have patients

from the Part-Pay Plan group allocated to them for care.

III.

The Part-Pay Plan shall be under the executive management of the same head as the Physicians' Exchange and its business transacted through the same office. This executive shall be called the Executive Secretary for purposes of these Rules and Regulations.

IV.

Service of the Part-Pay Plan shall cover the entire twenty-four hours of each day.

V.

The benefits and privileges of the Part-Pay Plan for medical care are intended for the sick and injured who cannot finance its usual cost and is intended to cover only necessary medical care.

VI.

The financial status of prospective patients under this group shall be determined by:

(a) Recognized Social agencies.

(b) Religious organizations maintaining suitable facilities for studying case needs.

(c) Health officials.

(d) Members of the Medical, Dental and Pharmaceutical professions.

VII.

The term "sick" as used in the Part-Pay Plan is meant to apply to a person requiring any kind of professional service rendered by the medical profession. The term "medical care," likewise used, is meant to include any kind of professional service rendered by the medical profession.

VIII.

The sick person or some person responsible for his (her) care shall request or consent that medical care be furnished on the Part-Pay Plan.

IX.

Requests for medical care under the Part-Pay Plan may be made by the patient or some person responsible for his (her) medical care direct to the office of the Executive Secretary or through the agencies covered by Section VI, and in either case the routine through the office shall be the same.

X.

When a call for medical care is received by the Executive Secretary, the following procedure is to be observed:

(a) The name, address and nature of need for medical care is to be registered.

(b) The name of the referring agency shall be noted.

(c) The social and financial data developed by the agency that studied the case is to be filed as a part of the record.

(d) Whether the requested service is to be rendered in home, hospital or physician's office.

(e) The prospective patient, or the responsible person therefor, shall be requested to select a physician to render the medical care required. In the event he (she) does so, the physician so named shall be notified by the Executive Secretary and arrangements completed for the patient's care. If the person responsible thereafter expresses no preference, a physician is to be allocated by the Executive Secretary under regulations hereinafter outlined and the arrangements completed as indicated above for those selecting a physician. It is desirable that every patient select his (her) physician and should be encouraged to do so.

(f) All cases referred to the Part-Pay Plan office shall be sent to a general practitioner for examination and treatment, if he can render that service. When study or treatment is required he is not equipped to make or give, he may ask for the services of some member of the Part-Pay Plan group who is so equipped. After such study or treatment is completed a report shall be sent to the general practitioner in general charge of the case.

(g) Consultations should be asked for in the judgment of the attending physician under exactly the same conditions as would obtain in similar medical conditions occurring in the group of private patients not included in the Part-Pay Plan. The physician to act as consultant shall be chosen from the Part-Pay Plan group by the physician in charge through the office of the Executive Secretary.

(h) When a physician accepts a case, whether general practitioner or specialist, the financial and professional relationships become exactly those of patient and physician in ordinary professional work. The compensation for service, the manner of rendering it, the amount of payment, all are their concern and the office of the Part-Pay Plan closes the transaction.

(i) It is understood that the fees of specialists and consultants are subject to the Part-Pay Plan and must be made to meet the patient's ability to pay.

(j) The entire cost of necessary medical care rendered by members of the Part-Pay Plan shall be determined solely by the patient's ability to pay without undue hardship.

(k) Every reasonable effort shall be made to render each applicant all necessary medical care.

(l) The specialists acceptable in the Part-Pay Plan shall correspond to those recognized by Sections in the A. M. A.

XI.

To facilitate the selection of physicians, those listed to participate in the Part-Pay Plan shall be classified according to the kind of professional work they do.

XII.

To further facilitate the satisfactory working of the plan, the city shall be divided into zones as follows:

* * * * * * *

The County shall be divided according to the boundaries of the present precincts.

* * * * * * *

XIII.

When a patient is referred by the Social Service Activity under the direction of the Director of Health of the City or by the County Health Officer, a copy of the data compiled by the respective Social Service is to be sent to the Executive Secretary. This copy is to be kept in a suitable file in the office of the Part-Pay Plan. When requested, such information as may be contained therein is to be given the physician accepting the case.

XIV.

The City Department of Health has agreed to maintain an efficient Social Service at the City Hospital, charged with the responsibility of determining financial independence. The manager of the Exchange will accept the findings and recommendations of the Social Service subject to revision by the Committee on Physicians' Exchange.

XV.

The following outline, covering data to be obtained by the Social Service from applicants for free medical care and upon which determination for rendering such service will be based is approved subject to adoption by the J. C. M. S.

The following suggestions as to routine requirements for admission to the City Hospital were submitted by the Director of Health (City) as follows:

"Points to be determined in Interview:

1. Salary (per month)
 How long employed; employer. How long employed before present job. If unemployed, how long.
2. Dependents.
 Note ages and financial contributions if any.
3. Health of dependents.
4. Savings or investments.
5. Real estate owned.
 Mortgaged?
6. Is car owned?
7. Is grocery bill paid?
8. Is he receiving relief from any agency?
9. Are there other members of the family who might give help?
10. Insurance.
11. Recent Illnesses.
12. Nature of disease.
 Will patient remain at work, if working?
 Probable duration.
 What arrangements may be made with family if hospitalized and no other source of income?
 What would expenses for drugs, dressings and hospital charges be if treated privately?

In connection with the Part-Pay Plan the Director of Health (City) further submitted the following questionnaire to be used as a guide by the Social Service Department at the Hospital:

"Basic earnings per week to be considered as minimum for sustaining life without provision for medical care. It is presumed that no physician would accept money that would deprive a patient or his dependents of food and clothing.

White	Per month
Single individual	30-40
Family of two	35-45
Family of three	40-50
Each additional dependent	10
Colored	Per month
Single individual	25-35
Family of two	30-40
Family of three	35-45
Each additional dependent	9

Any individual coming in or below classification is a legitimate subject for complete charity.

Part pay plan should apply:

White	Per month
Single individual	50-100
Family of two	55-120
Family of three	60-130
Each additional dependent	15
Colored	Per month
Single individual	45-75
Family of two	40-90
Family of three	55-100
Each additional dependent	12

It must be borne in mind that an individual whose budget would provide for a minor illness might not be able to pay for a prolonged illness entailing hospitalization and cessation of earning power."

The plan was not agreeable to the Committee on Medical Economics as a fixed yardstick. It is thought that by the adoption of such a scale there would be a tendency to abuse it. The Committee holds to the view originally propounded that medical care constitutes a necessity and that fam-

ilies should budget for such care, as well as for food, clothing and shelter.

THE CREDIT AND RATING BUREAU

In its report for 1933 (page 187, Vol. I), the Committee on Medical Economics recommended the grouping of the citizens of Louisville into four groups, viz., the Can't Pay, the Part-Pay, the Do-Pay and the Won't Pay patients.

Definite plans for the care of the first group by the Departments of Health and the agencies and institutions under their control of both the City and County were provided. The part-pay group has been amply arranged for by the creation of a part-pay plan operating through co-operation of the Departments of Health of the City and County and the Physicians' Exchange of the J. C. M. S. The third group is independent and the relations between its members and the members of the Medical profession are subject to private adjustment.

It was to Group four, the won't-pay element, that the Committee next directed its study. No investigation of a fact-finding nature was needed to establish the identity of such a group: it has been as perennially in evidence as has the can't-pay stratum, of whom it has been said, "we have always with us." Many persons in this won't-pay group not only refuse to pay for medical care, but even boast of it. The amount of income lost by the profession through this group is believed to be large. The Committee believed further that this imposition could be stopped.

Early in the year a general plan for the creation and operation of a Credit and Rating Bureau was worked out and presented to the Society. That any physician would find cause for opposition to such a Bureau was scarcely thought probable by the Committee. Opposition did develop, however, and the incongruous anomaly of a Committee obliged to sell a plan to the Society members designed to make them money was made necessary. Valuable time was thus lost and it was not until September that the plan was adopted and steps taken to get the Bureau in action.

The principles upon which the Bureau must function and which were deemed irreducible were:

1. The Bureau should confine its activities to obtaining from and disseminating for the membership of the Jefferson County Medical Society necessary information concerning the patients of the membership who could but refused to pay for medical care.

2. The information must be a voluntary contribution of the membership, each member reserving the privilege of determining whom of his patients should be reported as belonging to the won't-pay group.

3. The information must be reported to the office of the Bureau, the personnel of which must suitably file and make available to all members of the Society on request.

4. The name should be, The Credit and Rating Bureau of the Jefferson County Medical Society.

5. The Bureau should be located in the office of the Physicians' Exchange and operated by the supervisor of the Exchange under the direction of the Committee already set up to direct the Physicians' Exchange and the Part-Pay Plan.

6. The work of the Bureau should be purely informative.

7. No effort at collection of accounts should be made. The Society may eventually establish a collection agency, but it should not be a part of a Credit and Rating Bureau service.

8. The entire membership must participate in the work of the Bureau. It cannot function on a voluntary membership basis. Its work depends on a 100 per cent participation of the membership.

9. The cost of operation of the Bureau should not exceed $5.00 per annum per member and this cost to each member should not be included in the Annual dues. The cost of operation should be prorated among the membership annually and be made payable to the Treasurer of the Society, whose duty it should be to pay salaries and other expenses of the Bureau out of the Society's funds.

10. A physician joining the County Society becomes a member of the Credit and Rating Bureau and should be held delinquent when either his membership dues or Bureau assessment are unpaid for any current year.

11. A physician joining the Society after August 1st of any year should be assessed Bureau dues for the remaining months of the calendar year.

12. The Committee on Physicians' Exchange, Part-Pay Plan and Credit and Rating Bureau should fix the salaries of persons employed in the Bureau, prescribe the forms of records and authorize all purchases.

13. The data accumulated about the won't-pay group should be made available on request to any member in good standing at the time of request.

14. The information concerning the financial responsibility of the won't-pay group should derive from medical care liabilities entirely. This is necessary to be of value to physicians. Grocer, house rent and other debts occupy a different status to definitely

and in some instances legally, for admixture with medical care debts.

15. It should be definitely understood that the operation of this Bureau and participation in its activities is not to be interpreted as placing any limitation on a Society member with regard to rendering professional service to a person (or a dependent) listed as a won't-pay patient previously attended by some other member. The rendering of a professional service must remain a matter of free decision by any physician. The information in the Bureau is intended only to acquaint a member of past response to obligations incurred and not discharged.

A Resume of a Survey of Medical Care in Louisville and County, Made for the Director of the Bureau of Economics of the A. M. A.

The attached correspondence covers a letter of inquiry from Dr. R. G. Leland, Director of the Bureau of Economics of the American Medical Association, of August 20, 1934, to the secretary of the Jefferson County Medical Society concerning the extent to which medical care is reaching those in need of it.

August 20, 1934

Dr. C. M. Edelen, Sec.
Jefferson County Med. Soc.
Louisville, Ky.
Dear Doctor:

A statement is being circulated to the effect that 25 per cent of the people who need medical care are either not receiving it, or are unable to obtain such services.

We are endeavoring to ascertain whether such condition exists in your county.

It will be very helpful to this study if you will send us your estimate of the percentage of persons who need medical care, but who are either not receiving it or are unable to secure such attention. We shall be glad to have also, your statement of the reasons for this failure to receive it, or inability to obtain medical services, if such a condition exists in your community.

It is very important that we secure, as soon as possible, reliable information on this subject. Your considered contribution to this study will, therefore, be not only very helpful, but it will be as greatly appreciated as your previous prompt assistance on other matters pertaining to medical economics.

Cordially yours,

Signed R. G. Leland, M. D., Director,
Bureau of Medical Economics.

August 28, 1934

Dr. R. G. Leland, Director,
Bureau of Economics,
American Medical Association,
535 N. Dearborn St.,
Chicago, Ill.
My dear Doctor:

Your letter to the secretary of the Jefferson County Medical Society, Louisville, Ky., under date of August 20, 1934, has been turned over to me as chairman of the Committee on Medical Economics of that society for reply.

The first paragraph of your letter, stating that it is reported that "25 per cent of the people who need medical care are either not receiving it or are unable to obtain such service," is not clearly put. It is quite probable that 25 per cent of the people of this county who need medical care are not receiving it, but it is not true in our section that 25 per cent of the people who need medical care and seek it are not getting it. There is no need for a single individual in Louisville or Jefferson County failing to get adequate medical care if requested.

In order to help you accumulate data of a nation-wide source, the following information is given you concerning the medical situation in Louisville and Jefferson County:

1. The medical facilities available.

The population of Louisville and Jefferson County is, White 315,000, Colored, 50,00.

Licensed physicians	625
Members of the Jefferson County Medical Society	410
There are 8 private general hospitals with a bed capacity of	1,090
4 private special hospitals with a bed capacity of	109
1 Marine Hospital with a bed capacity of	83
1 Municipal City Hospital (indigent) with a bed capacity of	476
1 Kosair Crippled Children's Hospital (charity) with a bed capacity of	77
1 Children's Free Hospital (charity)	74
1 Municipal and County Tuberculosis Hospital (charity), beds	465
1 State Tuberculosis Sanatorium (part free and part pay) beds	80

These hospitals give a total of 1,267 beds for private patients and 1,608 charity beds. The Louisville City Hospital was built by bond issue for the care of the City's indigent sick and is a general hospital, which cares also for transmissible diseases in an isolated pavilion. This hospital is staffed by the faculty of the Medical School, University of Louisville, and under the present ruling of the city authorities any individual who is a citizen of the city may obtain admission

and treatment for any sort of illness whose income is $1,000 00 per annum or less, with $75.00 additional for each additional dependent member of his family. The Children's Free Hospital is supported by endowment and contributions and its beds are free. It is also staffed by the faculty of the Medical School. The Kosair Crippled Children's Hospital has a voluntary staff composed of men of all specialties, and its beds are free. The Waverly Hills Tuberculosis Association is jointly owned by the County and City and its 465 beds are all free. Its staff is composed of all-time men on salary. In addition to this free service 7 of the 8 private general hospitals of the city have free beds and in the year 1933 these hospitals cared for free patients totalling approximately 32,000 bed days.

Besides this hospital service there are maintained in the city 9 clinics for ambulatory cases. One of these is designated as a part-pay clinic and an admission fee of 50c for the first visit is charged, and 25c for each succeeding visit. Drugs and supplies at this part-pay clinic are given at cost and no charge is made for physicians' services. All the other clinics are free or a nominal charge for drugs is made in some. In 1933 a total of 4,687 patients passed through these clinics.

In addition to the above mentioned hospitals and clinics, the City of Louisville also maintains a Department of Health, with a doctor as its director. This municipal Health Department maintains a Health Clinic in the City Hall, where during the year 1933 the physicians on part or all-time salary connected with the department treated 6,600 ambulatory patients and administered 1,500 vaccines for prophylactic purposes. The City Health Department maintains two clinics in widely separated portions of the city. There were seen in these two clinics during 1933 over 4,000 patients, for whom over 100 x-ray examinations were made and more than 400 Wassermanns were done. The City Health Department maintains a school hygiene division, which in 1933 made more than 58,000 examinations, partial and complete. 8,000 doses of toxin anti-toxin were administered, 2,500 doses of scarlet fever serum administered and over 6,000 vaccinations for small pox done. In addition, over 3,000 of these children received dental care. This was all done without cost to the individual patient. Besides the director of health and his assistant, there are employed 10 physicians, some on whole and some on part-time pay basis, who are subject to calls by the city's indigent sick in their homes either day or night.

The City Health Department also maintained in 1933 an independent laboratory with an all-time physician, one assistant and 3 technicians on duty. No charge is made for any service rendered by this laboratory and examinations are made for any physician for any patient who is unable to pay for required work in a private laboratory.

The Waverly Hills Tuberculosis Sanatorium has 10 physicians on salary, 148 non-professional employes, 76 nurses and has a bed capacity of 465 beds, with a bed occupancy of over 90 per cent. No charge is made for medical care in this institution. In addition to the hospital, there is maintained a dispensary in the city which examined in 1933 over 4,200 patients. The personnel of this dispensary also tuberculin tested over 4,400 school children and made x-ray studies of over 900, with fluoroscopic study of an additional 250.

In addition to the above purely charity work, the Jefferson County Medical Society through its Committee on Medical Economics has created and put in operation a part-pay plan, whereby any person not an indigent may obtain professional service of any sort on a basis of payment determined by his ability to pay. More than 200 of the 410 members of the County Society are affiliated with this part-pay plan. A telephone exchange with four trunk lines is maintained in the office of the County Society, in charge of 3 all-time salaried laymen, rendering day and night service. The negro doctors of the city have been contacted and a separate part-pay exchange office is maintained by them at their expense.

In addition to all of this there yet remains the undetermined but nevertheless continually existing service that is rendered by the practicing physician to people unable to pay.

We close, as we began, with the statement that probably 25 per cent of the people in this community who need medical care are not receiving it, but that no man, woman or child who needs medical care and who seeks it need do without it in Louisville and Jefferson County.

As a personal word I should like to say that your office has been very helpful to our committee on Medical Economics in studying Medical Care in Louisville during the past 20 months and it is a pleasure to place at your disposal the above facts and figures, which represent but a small part of our rather intensive survey.

Sincerely yours,

Virgil E. Simpson, Chairman,
Comm. on Medical Economics,
Jefferson County Medical Society

A Restatement of Principles Believed to be Fundamental in the Distribution of Medical Service.

1. The Medical profession is held solely responsible by law and custom for the character of medical service.

2. The Medical profession has always been ready to avail itself of the services of nurses, laboratory workers, social service workers and lay administrators rendering medical service. It must insist that the responsibility of the character of that service can neither be taken over or shared by those not licensed to practice Medicine.

3. Clinics, hospitals, teaching institutions and lay organizations for the control or study or care of some special disease entity have become competitors of the medical profession. This competition has tended to change traditional economic relations and alter the pattern of professional standards of good medical service.

4. These agencies, for the most part under lay administration, whether supported by taxes or lay donations, whether depending on paid or donated medical services, have come to exercise a determining influence on the problem of medical care by

(a) Overbuilding hospitals.
(b) Raising the standard of indigency.
(c) Educating the public to place an inordinate value on the services of specialists.
(d) Destroying confidence in the adequacy of home care and a contempt for the family physician.

5. Social service workers are the worst offenders in present-day medical set-ups. Social service departments should be under the supervision of the medical service and not a part of the administrative staff. The proper field of social service activity is assistance in the adjustment of economic and social relations of patients and it should not function as a collection bureau or a guide-post indicating the road to Communistic medicine.

6. Free medical service should be given only to those in need of it. Dispensary or hospital service should be given only on the recommendation of physicians. The relation of patient to physician must be preserved and admissions to free clinics and hospitals should come only after the patient has requested his physician to render service and found unable to finance the obligation.

7. Workmen's Compensation laws constitute an abuse which should be ended. Almost all of these laws operative now in 44 states were drafted and put into operation without the approval or co-operation of physicians. The development of "list hospitals," of fee-splitting, of political control, of professional corruption, of lay over head cost, of compulsory industrial sickness insurance, are but a few of the abuses of this amazing inimical monstrosity. The law in this State must be rewritten.

8. Organized medicine developed public health service in this country. The original scope of activities of public health services have expanded until it is a veritable Frankenstein. It has become a competitor of the medical profession along with free clinics, hospitals, etc. It must be regulated and properly co-ordinated with other activities of the medical profession. Preventive medicine can be done by the practicing physician as well as by the public health administrator, but recently himself a practicing physician.

9. Private hospitals must not be permitted to carry the present independent sales of certificates for hospital care. Only a community plan selling a common certificate, usable in any participating hospital, with free choice of physician, can be considered acceptable to the profession.

10. The medical profession is being exploited by laymen. It is being told how to render medical service, its remuneration is being fixed or donation of service required. The lay groups, however, draw compensation from funds growing out of the services of the profession.

NEWS ITEM

A ten weeks' post graduate course in pediatrics will be given at the Children's Free Hospital, Louisville, beginning April 24th and continuing to July 1. Further detailed notice will be published in the next issue of the Journal. This course will be open to every physician in Kentucky and will be held each Wednesday in the week.

BOOK REVIEW

THE RADIOLOGICAL SOCIETY OF NORTH AMERICA

All members of the profession and their assistants who are interested in X-Ray are cordially invited to attend the annual meeting of the Radiological Society of North America, which will be held at the Peabody Hotel, Memphis, Tennessee, December 3-7, 1934. Those who have attended previous meetings will be very glad of this opportunity to go to a meeting near home. The technical exhibits and demonstrations are promised to be exceedingly good. Further information can be obtained by addressing the Secretary, Dr. Donald S. Childs, 607 Medical Arts Building, Syracuse, New York.

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NEXT MEETING LOUISVILLE

COUNTY SOCIETY REPORTS

Jefferson: It was the privilege of the Jefferson County Medical Society to have as guest speakers on December 3, 1934, two outstanding research workers, Dr. William H. Park, of the City of New York Department of Health, Bureau of Laboratories, and Camille Kereszturi, Associate Pediatrician of Sea View Hospital for Tuberculosis, New York City. Their addresses on B. C. G.Vaccine and its Control of Tuberculosis, was illustrated by lantern sildes. The Society is indebted to the Louisville Tuberculosis Association for such a rare treat; and we look forward each year to a very instructive and pleasant evening as a result of the efforts of the Tuberculosis Association.

At the annual dinner meeting held in the ball room of the Kentucky Hotel on December 17, 1934, the members of the Jefferson County Medical Society heard the reports of the various officers and committee chairmen.

The meeting was presided over by Dr. A. Clayton McCarty, First Vice-President, in the absence of Dr. Walter Hume who was confined to his home because of illness. Dr. McCarty read the report of the retiring President.

Dr. Virgil Simpson, Chairman of the Society's Committee on Medical Economics, was absent on account of illness and rather than have his report read by one not so familiar with its details, it was decided to set aside the second meeting in February for his report.

The following officers were elected for 1935: President, Dr. James H. Pritchett; First Vice-President, Dr. Clay L. Nichols; Second Vice-President, Dr. Margaret Hatfield; Secretary, Dr. Uly H. Smith; Treasurer, Dr. Arthur T. Hurst. Executive Committee, Dr. Walter Hume. Judicial Council, Dr. E. Lee Heflin and Dr. Harry A. Davidson.

CHAS. M. EDELEN, Retiring Secretary.

Taylor: At the November meeting of the Taylor County Medical Society the following officers were elected to serve for the year 1935: President, B. T. Black, Campbellsville; Vice-President, E. L. Gowdy, Campbellsville; Secretary-Treasurer; W. B. Atkinson, Campbellsville. Delegate to be elected later.

On December 6th, the Taylor County Society was host to the district society at a banquet held in the dining room of Campbellsville College. Dr. A. L. Bass of Louisville, showed and explained a motion picture of "Ciliary Action." Dr. A. B. Lukins delivered an essay on "Breast Tumors" and also explained the working of the medico-legal committee.

The physicians of Casey County were invited to join with those of Adair, Green, Marion and Taylor in the future meetings of the society.

This was accepted, on behalf of Casey County by Dr. Brown.

W. B. ATKINSON, Secretary.

Carlisle: The Carlisle Medical Society met in joint session with Ballard and Hickman County on December 4, 1934 with the following members present: Drs. Harrell, Payne, Smith, Burrow, Kennedy, and Dunn.

Dr. J. F. Harrell read a very able paper on "Preventive Medicine," which was freely discussed by the members.

Dr. E. L. Kennedy, President, delivered his retiring address, the subject of which was "Endocriniology."

The following officers were elected for the ensuing year: Dr. G. W. Payne, President; Dr. J. F. Harrell, Vice-President; and Dr. J. F. Dunn, Secretary and Treasurer.

Every doctor in the County belongs to the society and all were present.

The society adjourned to meet at Wickliffe on first Tuesday in March.

J. F. DUNN, Secretary.

Henderson: Henderson County Medical Society held its annual banquet and election of officers, December 10th, 1934, at the Hotel Soaper.

The followng Doctors were elected for the year 1935: President, W. V. Neel; Vice-President, R. E. Smith; Secretary-Treasurer, W. L. O'Nan; Censors, W. Forwood, J. O. Strother, and G. W. White. Delegate, R.E. Smith, Alternate, W. V. Neel.

WALTER L. O'NAN, Secretary.

Harrison: The Harrison County Medical Society held its regular December annual meeting and dinner at the Hotel Harrison, December 3, 1934.

The members and visitors present were: Drs. Wells, Smiser, N. W. Moore, McIlvain, Brumback, Moody, Swinford, Melvin McIntire, Martin, McDowell, Wyles, Rees, Midden, W. B. Moore, Carr, Blount, Henry, Chamberlin, Ross, Todd, and McNeely. Drs. Marks, Ray, Massie, Barrett and Maxwell, Lexington; Drs. Daughterty, Orr, Hopkins, Rickman, Pittenger and Hart, Paris; McMurtry, Falmouth.

The meeting was called to order by the president, Dr. M. McDowell. The reading of the minutes for the previous meeting was omitted, on motion and the call for the election of officers for 1935 resulted as follows: President, Dr. H. Tod Smiser; Vice-President, Dr. H. C. Blount; Secretary-Treasurer, Dr. W. B. Moore; Censor, Dr. Josephus Martin. Dr. J. P. Wyles was elected alternate delegate to the State Association meeting.

Short talks were made by Drs. Marks, Daugherty, Maxwell, Massie, Wells and others and the meeting adjourned.

W. B. MOORE, Secretary.

Perry: The annual meeting of the Perry County Medical Society was called to order by Dr. D. D. Carr, President, Monday, December 10, 1934, at 7 P. M.

Thirty five members and guests were present.

Invocation by Dr. J. P. Boggs.

Following the dinner, a most interesting talk on "The Layman's Viewpoint of the Medical Profession" was made by Mr. E. B. Lovern.

The annual report was read by the Secretary.

Election of officers for the year 1935 was then held. President, B. M. Brown; Vice-President, Guy Pinckley; Secretary and Treasurer, R. L. Collins; Delegate, C. D. Snyder; Censor, J. C. Coldiron.

R. L. COLLINS, Secretary.

Campbell-Kenton: The regular bi-monthly meeting of the Campbell-Kenton Medical Society was held December 6, 1934 at St. Elizabeths Hospital, Covington, Ky., at 8:45 P. M. with Dr. F. E. Bell, President, presiding.

The minutes of the last meeting were read and approved and the usual business transacted.

The society has just passed through another successful year with a paid up membership of 97. As there are still quite a few doctors in both counties who are not members of the society the President appointed a committee to try to induce these men to become members.

Election of officers was held and the following members were unanimously elected: President, John Todd, County Health Officer of Newport; Vice-President, H. C. White, County Health Officer of Covington; Secretary, C. A. Morris, Covington; Treasurer, J. D. Northcutt, Covington. B. K. Menefee was re-elected as a member of the Board of Censors. J. O. Haizlip and L. C. Hafer were appointed delegates to the 1935 State Medical Association.

As there was no further business the President introduced the speaker of the evening, Dr. E. B. Shewman of Cincinnati who presented a paper on the subject of "Abdominal Pregnancy" with a report of six cases. This paper was thoroughly enjoyed by all and was considered one of the best papers presented during the year.

The following members were present: Drs. F. E. Bell, H. C. White, D. S. Bonar, C. W. Air, Robt. Reichert, Stuart A. Biltz, John A. Dawson, John Todd, W. E. Miner, John E. Herget, John G. Renaker, J. O. Haizlip, J. A. Caldwell, C. E. Smith, Luther Bach, E. W. Northcutt, C. A. Morris, L. C. Hafer, N. A. Jett, C. A. Menefee and B. K. Menefee.

The next meeting of the society will be held

on December 20, 1934 at Speer's Hospital, Dayton.

B. K. MENEFEE, Secretary.

Letcher: The Letcher County Medical Society was the guest of E. F. Sheppard and Staff of the Consolidated Coal Company, Jenkins on last Tuesday night, November 27th. The following physicians, their wives, and friends were in attendance at this meeting:

Dr. T. M. Radcliffe, President of Society, Kona; Dr and Mrs. E. F. Sheppard, Jenkins; Dr. and Mrs. J. E. Stanfill, Jenkins; Dr. and Mrs. W. H. Lawson, Jr., Jenkins; Dr. and Mrs. J. Y. Harper, Jenkins; Dr. Robert Kelly, Louisville, (guest of honor); Dr. Fred W. Caudill, Georgetown, (guest of honor); Dr. and Mrs. Noah H. Short, Norton, Virginia; Dr. J. Disney, Jenkins; Dr. and Mrs. Clyde Watson, McRoberts; Dr. and Mrs. D. V. Bentley, Neon; Dr. and Mrs. B. F. Wright, Seco; Dr. and Mrs. John W. Moss, Seco; Dr. and Mrs. Owen Pigman, Farraday; Dr. and Mrs. B. C. Bach, Whitesburg; Dr. and Mrs. R. Dow Collins, Whitesburg; Dr. J. E. Crawford, Whitesburg; Mrs. Ruth Anderson, R. N., Jenkins; Mrs. Florence Jorgensen, R. N., Jenkins; Mrs. Margaret C. Harrington, R. N., McRoberts; Miss Maggie Ashworth, R. N., Jenkins; Mrs. John McCoy, Norton, Virginia.

A most delightful and delicious turkey dinner was served by the Jenkins Staff, a meal very highly appreciated by one and all present.

After this excellent repast Dr. Radcliffe called the meeting to order, and the program of the day was called for. Dr. Robert Kelley, Dermatologist, of Louisville read an exceedingly instructive paper on "Cancer of the Skin;" this paper was well illustrated by lantern slides. Dr. F. W. Caudill, Health Officer of Scott County, Georgetown, Ky., gave an excellent talk on "Acute Anterior Poliomyelitis" (Infantile Paralysis).

These two papers presented with a number of questions from the Society brought the hour closely approaching midgnight; another paper was to have been presented by Dr. Short, but the late hour forbade.

This meeting was the best, most delightful, and most instructive of the year, and certainly one of the best in the history of the Society. We, the members, extend to our beloved hosts, Dr. Sheppard and Staff—our sincere thanks and appreciation. This event will not soon be forgotten.

R. DOW COLLINS, Secretary.

BOOK REVIEWS

TREATMENT BY DIET.—By Clifford J. Barborka, B. S., M. S., M. D., Department of Medicine, Northwestern University Medical School, Chicago. Formerly Consulting Physician, Mayo Clinic. Illustrated. J. B. Lippincott Company, London and Philadelphia.

The purpose of this book is first, to present to physicians a concise, practical and systematic method of prescribing diets and applying treatment by diet to health and disease; second, to aid the physician and dietitian in teaching the individual patient how to make a selection of the proper amount and type of food that has been prescribed for him. The chapter on "The Application of Dietotherapy" offers an excellent method of teaching the patient to visualize definite portions and servings of the various foodstuffs.

Almost every physician has a different method and conception of treatment by diet. Most of these are variations of existing plans and stock diet lists of greater or less antiquity and do not consider the individual patient's needs. Many are fairly complex with the result that the patient, and at times even his medical advisor, are both needlessly confused. There is a great deal of scientific material of considerable value regarding diet being written and given out to the public: however, there is, also, so much unscientific and faddish information being disseminated that it is very difficult for the physician to teach his patients the proper conception of the relation of diet to health and disease.

Because of the above facts the writer has placed stress upon the elementary principles that science has developed. He has purposely omitted excessive details and lengthy accounts of theories. Through his observation and contact with other physicians in the practice of medicine and by an extensive review of the literature, including the many excellent scientific and detailed texts on the subject of nutrition, he has incorporated the most widely accepted ideas of other men in the various fields of nutrition.

Furthermore, the material presented in this book has proved to the writer to be an effectual measure, in applying treatment by diet, in both hospital and private practice.

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Throughout the book Dr. Babcock stresses Diagnosis and Treatment. He emphasizes those surgical conditions of frequent occurrence in general practice. He gives full consideration to medical and non-operative measures where such measures offer possibilities. He goes fully into indications, contraindications and step-by-step operative technic. He gives preoperative and postoperative management, special diets, routine management of emergencies. He deals in *details*—not in generalities. The *surgeon* will find the new (2nd) edition a storehouse of modern surgical practice and the *general practitioner* will find it of untold value in the recognition of surgical condtions, in their treatment, and in the indications which it gives for surgical intervention.

Octavo of 1312 pages, with 1032 illustrations, some in colors. By W. WAYNE BABCOCK, A. M., M. D., LL. D., F. A. C. S., Professor of Surgery and of Clinical Surgery in The Temple University, Philadelphia. Cloth, $10.00 net.

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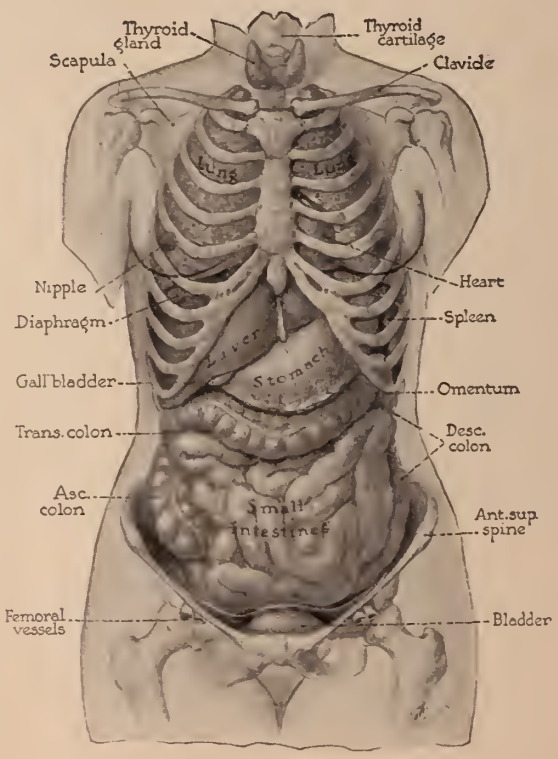
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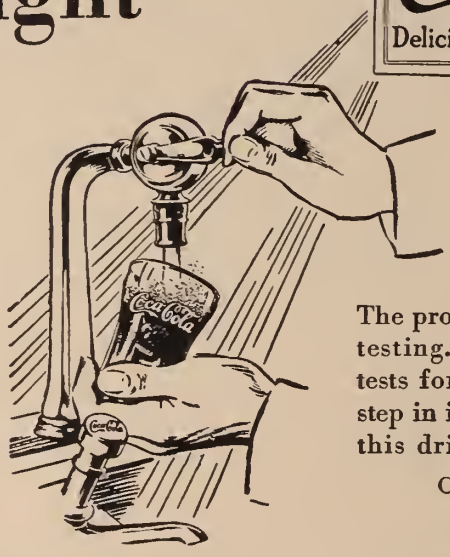
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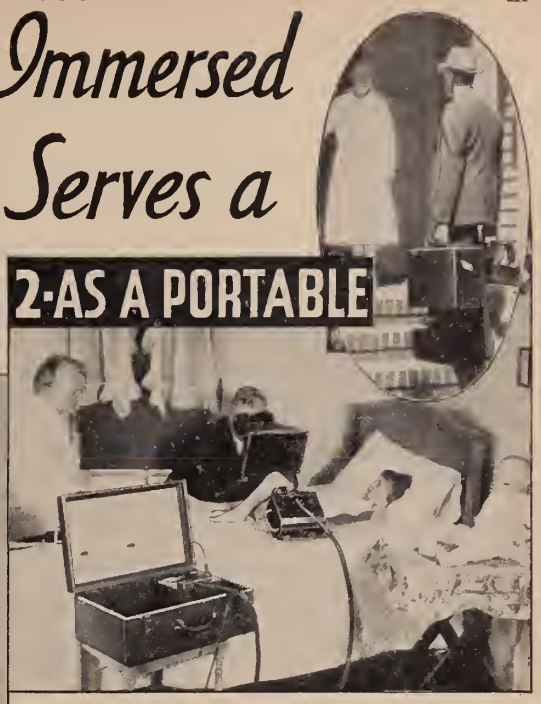
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COUNTY	SECRETARY	RESIDENCE	DATE 1935
Adair	N. A. Mercer	Columbia	March 6
Allen	A. C. Miller	Petroleum	March 27
Anderson	J. B. Lyon	Lawrenceburg	March 4
Ballard	F. H. Russell	Wickliffe	March 12
Barren	Paul S. York	Glasgow	March 20
Bath	H. S. Gilmore	Owingsville	March 11
Bell	R. F. Porter	Middlesboro	March 8
Boone	R. E. Ryle	Walton	March 20
Bourbon	W. B. Hopkins	Paris	March 21
Boyd	R. G. Culley	Ashland	March 5
Boyle	P. C. Sanders	Danville	March 12
Bracken	J. M. Stevenson	Brooksville	March 4
Breathitt	Frank K. Sewell	Jackson	March 19
Breckinridge	J. E. Kincheloe	Hardinsburg	March 14
Bullitt	S. H. Ridgeway	Shepherdsville	March —
Butler	G. E. Embry	Morgantown	March 6
Caldwell	W. L. Cash	Princeton	March 5
Calloway	A. F. Russell	Murray	March 7
Campbell-Kenton	Luther Bach	Bellevue	March 7-21
Carlisle	J. F. Dnn	Arlington	March 5
Carroll	J. M. Ryan	Carrollton	
Carter	W. S. Hawn	Grayson	March 12
Casey	Wm. J. Sweeney	Liberty	March 28
Christian	M. A. Gilmore	Hopkinsville	March 19
Clark	R. H. Scobee	Winchester	March 15
Clay	J. L. Anderson	Manchester	March —
Clinton	S. F. Stephenson	Albany	March 16
Crittendon	C. G. Moreland	Marion	March 11
Cumberland	W. F. Owsley	Burkesville	March 6
Daviess	I. A. Thorpe	Owensboro	March 12-26
Elliott			
Estill	Walter Cox	Irvine	March 13
Fayette	John Harvey	Lexington	March 12
Fleming	J. B. O'Bannon	Flemingsburg	March 13
Floyd	E. E. Martin	Allen	March 8
Franklin	W. S. Snyder, Jr.	Frankfort	March 7
Fulton	J. C. Morrison	Hickman	March 13
Gallatin	J. M. Stallard	Sparta	March 21
Garrard	J. E. Edwards	Lancaster	March 21
Grant	C. A. Eckler	Dry Ridge	March 20
Graves	H. H. Hunt	Mayfield	March 5
Grayson	C. F. Blankenship	Leitchfield	March 28
Green	S. J. Simmons	Greensburg	March 4
Greenup	C. W. Monroe	Greenup	March 8
Hancock	F. M. Griffin	Hawesville	March 4
Hardin	D. E. McClure	Elizabethtown	March 14
Harlan	W. R. Parks	Harlan	March 16
Harrison	W. B. Moore	Cynthiana	March 4
Hart	S. F. Richardson	Munfordville	March 5
Henderson	Walter O'Nan	Henderson	March 11-25
Henry	Owen Carroll	New Castle	March 25
Hickman	Chas. Hunt	Clinton	March 7
Hopkins	David L. Salman	Madisonville	March 7
Jackson			March 2
Jefferson	Uly H. Smith	Louisville	March 4-18
Jessamine	J. A. VanArsdall	Nicholasville	March 21
Johnson	P. B. Hall	Paintsville	March 9
Knott	M. F. Kelley	Hindman	March 23
Knox	F. R. Burton	Barbourville	March 22
Larue	D. W. Gaddie	Hodgenville	March —
Laurel	Oscar D. Brock	London	March 13
Lawrence	W. C. Gose	Louisa	March 18
Lee	W. D. McCullom	Beattyville	March 9
Leslie	John H. Kooser	Hyden	March —
Letcher	R. Dow Collins	Whiteshurg	March 26
Lewis	J. D. Liles	Vanceburg	March 18
Lincoln	Lewis J. Jones	Houstonville	March 15
Livingston	Wm. C. Davis	Salem	March —
Logan	Walter Byrne, Jr.	Russellville	March 6
Lyon	H. H. Woodson	Eddyville	March 5
McCracken	Leon Higdon	Paducah	March 27
McCreary	R. M. Smith	Stearns	March 4
McLean	G. L. Thompson	Calhoun	March 14
Madison	Hugh Mahaffey	Richmond	March 21

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Marion	W. C. Guffey	Lebanon	March —
Marshall	L. Henson	Benton	March 20
Mason	Allen F. Murphy	Maysville	March 13
Meade	A. A. Baxter	Brandenburg	March 28
Menefee	E. T. Riley	Frenchburg	March —
Mercer	J. Tom Price	Harrodsburg	March 12
Metcalfe	P. W. Bushong	Edmonton	March 5
Monroe	Geo. E. Bushong	Tompkinsville	March —
Montgomery	D. H. Bush	Mt. Sterling	March 12
Morgan	W. H. Wheeler	Betsy Sayne	March —
Muhlenberg	G. L. Simpson	Greenville	March 12
Nelson	R. H. Greenwell	Bardstown	March 20
Nicholas	T. P. Scott	Carlisle	March 18
Ohio	Oscar Allen	McHenry	March 6
Oldham	S. J. Smock	LaGrange	March 5
Owen	K. S. McBee	Owenton	March 7
Owsley	D. E. Wilder	Booneville	March 4
Pendleton	W. A. McKenney	Falmouth	March 13
Perry	R. L. Collins	Hazard	March 11
Pike	M. D. Flanary	Pikeville	March 4
Powell	W. Johnson	Stanton	March 4
Pulaski	M. C. Spradlin	Somerset	March 14
Robertson			March 18
Rockcastle	Lee Chestnut	Mount Vernon	March —
Rowan	G. C. Nickell	Morehead	March 26
Russell	J. B. Scholl	Jabes	March 11
Scott	F. W. Wilt	Georgetown	March 7
Shelby	W. E. Morris	Shelbyville	March 21
Simpson	N. C. Witt	Franklin	March 12
Spencer			
Taylor	W. B. Atkinson	Campbellsville	March 7
Todd	B. E. Boone, Jr.	Elkton	March 6
Trigg	H. L. Wallace	Cadiz	March 27
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	March 27
Warren	Hal Neal	Bowling Green	March 13
Washington	J. H. Hopper	Willisburg	March 20
Wayne	R. E. Teague	Monticello	March 7
Webster	C. M. Smith	Dixon	March 29
Whitley	C. A. Moss	Williamsburg	March 7
Wolfe	G. M. Center	Campton	March 4
Woodford	Chas. F. Voigt	Midway	March 7

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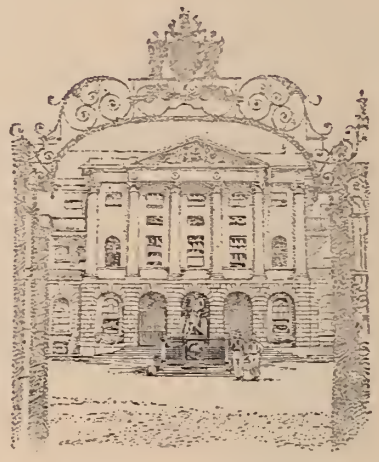
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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. 33 No. 3 | BOWLING GREEN, KY. | MARCH, 1935

A MESSAGE FROM THE PRESIDENT-ELECT

The year 1934 has witnessed several notable achievements in the practice of medicine. There are at least three that seem to give promise of real worth to both the profession and the public, and hence will be of permanent value.

The successful delivery and keeping alive of the Dionne quintuplets in Canada by a country doctor, Dr. Allan R. Dafoe, stands at the head of the list because it has received the most publicity. There was nothing very scientific or perhaps especially helpful in what Dr. Dafoe did, but he had the good judgment not to meddle during the delivery, and to use the best common sense in the care of the infants. The notoriety given this case will serve greatly to restore confidence in the family doctor, and help to replace him where he justly belongs in the hearts and minds of the people.

Dr. W. H. Parks and Dr. Daniel Kolmer have successfully produced a vaccine for the prevention of infantile paralysis. This was done by injecting a monkey's spinal cord with the virus from a paralysis victim, then killing the monkey and producing the vaccine from the ground-up spinal cord. We are greatly encouraged by the claims made by the originators of this vaccine. It is stated that in the United States each year more money is spent for the care of infantile paralysis victims than for those of any other one disease, tuberculosis and cancer not excepted.

In our neighboring city of Cincinnati, a Pavex machine has been developed for the stimulation of collateral circulation in the extremities of persons suffering with diabetic gangrene, endarteritis obliterans, etc. The word *Pavex* comes from passive vascular exercise. This is still in the experimental stage, but doctors who have used it are very enthusiastic in its praise. The machine will soon be available in at least two of the hospitals in Louisville.

As we enter 1935 it is difficult to say that the outlook for the future of the practice of medicine is bright. Those of us who have our ears to the ground must admit that there are rumblings perhaps of a radical change. Some of our most thoughtful doctors are rather alarmed at the spectre of State medicine. A drastic change in the form of government of most countries of the world, with the panel system for doctors in several countries of Europe, and so-called health insurance prevailing in most places, it is too much to expect that our present plan of the practice of medicine will not be greatly disturbed in the near future in some way or other. There must be many doctors who have not collected sufficient funds during these lean years for living expenses. Perhaps these doctors would welcome a stated security, even if it does come from the State. The demand, however, for this decided change seems to come mostly from would-be reformers and some powerful interests.

A study of the situation is being made in many places. The work of the state medical association of the state of Michigan is most outstanding. They have sent delegations to several states and to England, and have made an intensive study of the government management of sick people.

The relation of doctor and patient is a tie that will not be broken without a struggle. Most of us regard individual liberty as our highest ideal. The medical profession must approve and direct any system that will affect our happiness, our lives, and our income. Character, courage, and common sense are ours, and will be used to retain our standing and self-respect. The Kentucky State Medical Association will no doubt be found in the front ranks when the time comes to place the status of the practicing physician.

J. B. LUKINS, President-Elect.

Kentucky State Medical Association.

POST GRADUATE COURSE IN PEDIATRICS

The next Post Graduate course in Pediatrics under the auspices of the American Academy of Pediatrics will be held in the Children's Free Hospital, in Louisville, on each Wednesday for ten weeks, beginning April 24th. The hours will be from 9 to 12 A. M. and 12:30 to 1:30 P. M. This will give the doctors time to return home to finish up necessary calls that day.

The courses will consist of lectures and practical demonstrations of the new methods of transfusion by hypodermoclysis, intravenous and intra peritoneal medication, blood and urine tests, etc. Interesting bed side cases will also be demonstrated. The full program will be published in the next issue of the State Medical Journal. Some of the changes are in accordance with suggestions which were made by those attending the first course.

The fee for this course will be $5.00 and anyone interested should write directly to Dr. Philip F. Barbour, Chairman, for any further information.

THE ANNUAL MEETING

The Annual Meeting of the Kentucky State Medical Association will be held in the Roof Garden of the Brown Hotel, October 1, 2, and 3. The House of Delegates will meet in the Louis XVI Room on Monday, September 30 at 2 P. M. The Council will meet on the same day and place at 10 A. M.

The President-Elect, Dr. J. B. Lukins, has appointed Dr. E. F. Horine Chairman of the Program Committee and this insures a fine, instructive meeting. The chairman is a capable, scientific, thorough worker but he will need the co-operation of every doctor in the Association in securing a well rounded program.

Any physician in the State who wishes to read a paper is now invited to communicate with Dr. Horine. No one is eligible, however, who was on the program at the Harlan Meeting.

Plans will be published from time to time as they progress and in the next issue of the JOURNAL will be printed the committee on arrangement. The Golf tournament will open Saturday, September 28 and continue through Wednesday. No one is eligible for a prize who received one last year, this will give the dubs a chance.

ORIGINAL ARTICLES

PRESIDENT'S ADDRESS

KENTUCKY*

C. C. HOWARD, M. D.

Glasgow

Kentucky is an Indian name meaning "The Head of the River" or "Meadowland."

Before the coming of the earliest explorer, Kentucky was a vast wilderness and a rugged forest, comprising over forty thousand square miles. Its hills, mountains, valleys, and open stretches of fertile land called "Barrens" were unchanged by the hand of civilized man. Paths or traces in the vast forest were made only by large herds of buffalo, deer and elk. Flowers bloomed every where. Ducks, geese, swans, pigeons, wild turkeys, and beautiful birds were numerous. It has been almost two hundred years since the first white settler with his rifle and ax began to change this beautiful wilderness into a land now inhabited by civilized man.

For ages Kentucky had been a favorite hunting ground for the different tribes of Indians. The Chickasaws, Cherokees, and Catawbas on the South, the Shawnee, Wyandots, and Delawares north of the Ohio River. It is well called "The Dark and Bloody Ground," for it was also, often their fighting ground. Being uninhabited, it afforded an entering wedge for pioneer settlements, separating these northern and southern Indians.

The English were first to push their claims by right of discovery into the wilderness of Kentucky.

One hundred years after Jamestown was founded, Governor General Spotswood of Virginia with a small party, reached the top of the Blue Ridge Mountains, and looked over into the beautiful Shenandoah Valley. This was the first step westward on that long march into the wilderness. They traveled for fifty years up and down this valley before the keen eye of a hunter found the gap which led into Kentucky, thence, over the Wilderness road. This road had its Kentucky ending at the Falls on the Ohio. There, at the doorstep of George Rogers Clark, the trace was continued by the Peerless leaders, Lewis and Clark, who extended it up the muddy Missouri to the Rocky Mountains where an Indian squaw guided them through the treacherous passes to the headwaters of the Columbia, and down that turbulant stream to the Pacific Ocean which was the end of the Wilderness Road.

Kentucky, the Pioneer State of the West,

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was carved out of old Virginia by the first American-born white settlers. Its people came from eastern Pennsylvania, the Shenandoah Valley and the Carolinas. They were rural people, religious, sturdy home-makers, not looking for wealth. Children from the second flow of immigrants from Europe, came to settle for life.

Kentucky was admitted to the Union in 1792. It has at the present time one hundred and twenty counties with a population of almost three million, seven hundred and thirty thousand of which are children in the public schools, and two thousand Doctors in actual practice of medicine.

The western boundary of Kentucky was the Tennessee river until 1821 when the Purchase was admitted, that area was obtained from the Chickasaw Indians. The Purchase boundary line between Kentucky and Tennessee was established by the Federal Commission.

THOMAS WALKER: To our profession comes the distinction of furnishing the man who first explored Kentucky. Dr. Thomas Walker, graduate of William and Mary's College, family physician of Joseph Jefferson (the father of Thomas Jefferson), came into Kentucky in 1750. He led a small party through Cumberland Gap, crossing Cumberland River near Pineville. His exploration extended through the mountains of Eastern Kentucky to the Big Sandy Valley. Little did he dream of the black diamonds that lay underneath those hills.

Near Barbourville, which is now a State Park, Dr. Walker built the first house in Kentucky. He soon became discouraged and returned to his home in Virginia. He had failed to reach the "Promised Land," so, for twenty years Kentucky lay dormant.

DANIEL BOONE: Daniel Boone was born November 2nd, 1734 in eastern Pennsylvania. He moved with his father to the Yadkin Valley, North Carolina, when just a boy; having a passion for the wild was contented only in the wilderness. He threaded the tangled forest with the gracefulness of an Indian.

In the year 1769, Boone with several others left his home in the Yadkin Valley for a hunting expedition to Kentucky. After passing over the mountains unmolested, came to the region of Clark, Estill, and Powell counties. From there he looked over into the blue grass land of Kentucky.

When Henderson organized the Transylvania Company, it was Boone he selected to blaze the trail into the blue grass. This road stood for twenty-five years as the only avenue of travel in and out of Kentucky. In 1796, when the Governor ordered that the road be widened for wagons, Boone asked the privilege of widening it and was refused. He was growing old and had lost all of his property. He moved to Virginia and lived for a while with his son. The call of the wild was in his veins, so he packed his belongings, and on a flatboat floated down the Ohio into the territory west of the Mississippi to help develop the state of Missouri. Here he played a great part as a hunter and a

peacemaker. In 1820 he joined the great majority. His body was brought back to rest in the National Cemetery at Frankfort in 1845. After all these years of denial of recognition, the State that through his courage and energy had been developed for mankind gave him his last resting place. His outstanding contribution to civilization was his pioneer leadership. The frontiersmen had waited these many years for just such a leader to guide them over the mountains into the land of their dreams.

Pioneer Roads of Kentucky: The most pre-eminent of all trails into the West is the one blazed by Boone from the Block House in Virginia, to Boonesborough on the Kentucky River. It was the only route into Kentucky until after 1800. One hundred thousand people came over this narrow path before it was widened for a wagon.

The Cumberland Trace began at Crab Orchard, extended southwest through the Barrens and on to Nashville. It was over this road that James K. Polk, our eleventh President, rode to the home of Ephraim McDowell for the removal of a stone from his bladder.

The Wilderness Road was later extended by way of Danville, Harrodsburg, Bardstown and Louisville.

The Warriors Trace was an Indian road from Ohio through Kentucky to Cumberland Gap.

Fort Harrod: Fort Harrod founded in 1774 by James Harrod was the first settlement west of the Alleghanies, and was the code of Western civilization. In this Fort lived Anne Coomes, the first school teacher, and Ann McGinty, who brought over the first spinning wheel, and the first pigs and fowls. Dr. Harte practiced medicine in this Fort.

George Rogers Clark: George Rogers Clark was born and reared near Charlottsville, Virginia, a neighbor of Thomas Jefferson. They were loyal friends to the end.

It was in the early seventies when George Rogers Clark came into Kentucky, and just at the time an organizer was greatly needed. He traveled back over the Wilderness Road to Virginia to obtain powder for these frontiersmen. He secured five hundred pounds, thus saving the Colony.

While sitting in the Block House at Fort Harrod, Clark had the vision of a military genius. There he planned the "Conquering of the Northwest Territory," adding five states to the Union and moving the Canadian Border from the Ohio River to the northern banks of the Great Lakes.

Read his march to Vincennes. Later you will find him living alone on the banks of the Ohio. From a stroke of apoplexy he fell, severely burning his foot which was amputated by Drs. Ferguson and Collins, his old drummer boy making music while the operation was being performed. He died twelve years later; buried in Cave Hill Cemetery with a small stone at the head of his grave.

The Federal Government, after neglecting for one hundred and fifty years to pay tribute to this "Napoleon of the West," has erected a monument at Fort Harrod.

Simon Kenton: Simon Kenton came into Kentucky as a fugitive from justice (the accusation was later proven untrue), landed at Limestone (Maysville) joined Boone, Harrod, Logan, and Clark at Fort Harrod. He learned the art of outwitting the Indian, an education but few obtained.

After the Indian Race was conquered, Kenton checked up on his claims and found that the "oily gingers" had dispossessed him of all of his land. He followed the Warriors Path to Ohio, found a home in a new country to begin life over again. When an old man he rode horseback to Missouri to visit his old friend, Daniel Boone. Who of this modern age would saddle a horse and ride three hundred miles to shake the hand of a friend?

Circuit Rider: With the early settlers came the preacher and the priest. Without them there would have been no improvement over the customs of the Indian. Christian religion is the warp and woof which holds civilization together. Without it there would be no social justice, or care for the sick and unfortunate. The spires and cathedrals are but monuments to those early pioneer men of God.

John Filson: John Filson, the old school teacher from Maryland, was the press agent for Daniel Boone and the territory of Kentucky. His map and history of Kentucky, a masterpiece in its time, was translated into two foreign languages. He founded Cincinnati in 1788, and about that time, while out on a surveying trip became lost from the rest of the party and was never seen again.

The Filson Club, an outstanding organization of Kentucky, was named for him.

Abraham Lincoln: Abraham Lincoln was born in Hardin County, February, 1809, the year of the first abdominal operation, and only forty miles from the Jane Todd Crawford Home. He moved from Kentucky to Spencer County, Indiana, where he lost his mother. Her death was caused from Milk Sick, a disease transmitted through milk from a cow that has been poisoned by the Snake Root Weed.

Lincoln married Mary Todd of Lexington, a cousin of Jane Todd Crawford. He was assassinated in the year 1865 by John Wilkes Booth. Dr. Mudd of Maryland was sent to

prison for the reducing and care of the broken limb of Booth.

Abraham Lincoln stands alone in his greatness, goodness, and originality among the world's great men. He saved the Union thereby rendering himself immortal.

HENRY CLAY: Henry Clay was born and reared in the slashes of Virginia. With only a few law books in his saddle-bags he came into Kentucky and opened a law office in Lexington. At the age of twenty-nine he rode back over the Wilderness Road, carrying in the same saddlebags his commission as United States Congressman from Kentucky. When he reached the Potomac River it was past fording and there were no bridges on which to cross. Later, while at Washington he began to make investigation in regard to the Federal Government assisting in building highways and bridges. It is due to his interpretation of the Constitution that we have our Federal highways, bridges, and National Parks.

Henry Clay and Ephraim McDowell, two boys from the backwoods, are now in the Hall of Fame.

STEPHENS COLLINS FOSTER: Stephens Collins Foster, while visiting his cousin, Judge Rowan, near Bardstown, composed the song, "My Old Kentucky Home," which has advertised us to the world. He wrote over two hundred popular songs; died at the age of thirty-nine in a charity ward of the Bellevue Hospital in New York.

JANE TODD CRAWFORD: In the year 1805 Jane Todd Crawford with her family came over the Wilderness Road to Crab Orchard, down the Cumberland Trace to Greensburg, and nine miles up Green River to the farm where the Long Hunters camped. There, they made a home in a new country.

Four years later Mrs. Crawford became very ill. The two local physicians were unable to relieve her, so they sent for Dr. Ephraim McDowell of Danville, Kentucky.

Dr. McDowell reached the Crawford home December 13th, and after a careful examination of the patient, explained to her that she had a tumor growing from the ovary, and there was only one thing he could suggest that might relieve her suffering and save her life, that was to remove the tumor. He also explained that this had never been done before, and he thought it an experiment well worth trying. Mrs. Crawford listened patiently, and when he had finished, told him she was ready.

Mrs. Crawford made the journey of sixty miles on horseback to the home of McDowell in Danville. She rested three or four days, and on Sunday morning, Christmas Day, 1809, she went to the operating table. Without anesthetic she underwent the ordeal of having a twenty-two and one-half pound tumor removed. Let us stop and think of the pain and anxiety she suffered during those twenty-five minutes.

She was up in five days and made her bed.

Jane Todd Crawford was a woman with courage and a high degree of intelligence. One son became mayor of Louisville, another a noted pioneer preacher. She was the first Sunday School teacher in the State of Indiana; lived thirty-three years after the operation; died in western Indiana in a frontier settlement; buried in a country grave yard with a simple stone at the head of her grave. In this grave rests the "Heroine" of western civilization, she had the courage to open the way for all our modern abdominal surgery. Should we wait another generation before recognizing so great a benefactress to the human family? I say no; Lets rise and place her monument by the side of Ephraim McDowell's where it rightfully belongs.

EPHRAIM MCDOWELL: Dr. Ephraim McDowell, the first surgeon in the West, opened an office in Danville in the year 1795. He practiced medicine all through that part of Kentucky and was soon known as a man of ability and courage. His famous operation could hardly have taken place only in a pioneer country and by a pioneer Doctor. He proved the soundness of the operation many times. We today have excelled him but very little.

The Medical Profession is still desirous of obtaining the old McDowell Home as a shrine.

CONCLUSIONS

1. The study of our History is inspiring, beneficial, and necessary for a deeper understanding of our people.

2. We today are in need of the same attributes that made our pioneer ancestors heroic, namely, self reliance with that quality to join together for the betterment of all.

3. Investigation may be made of the history of each state from the beginning of the Wilderness Road to where the trail ends on the shores of the Pacific, and many shrines and monuments will be found erected to the memory of pioneer men, but only one to the gentler sex, and that to an Indian Squaw.

It stands at the headwaters of the Missouri.

Now would it not be fitting to erect a memorial in memory of Jane Todd Crawford, "The Heroine of the Wilderness" and representative of our great, great grandmothers?

THE TREND OF MODERN MEDICINE*

C. G. McLean, M. D.
Lexington.

In dealing with the subject which has been assigned to me, "The Trend of Modern Medicine," I believe that it is of greater importance to bring up before the State Medical Society a discussion of the imminent danger which we face in socialized medicine, rather than a review of the advances in medical science, say in the last two decades.

The journal of the American Medical Association has called attention repeatedly to the fact that representatives of the Milbank Fund, the Rosenwald Fund, and the Twentieth Century Fund, have made, and are making it their major function to put over a system of socialized medicine in this country. It is my belief that the situation we face is the result of the general national economic trend and the determined efforts of the above mentioned agencies to put over their plan.

Practically every civilized country of the world has tried at one time or another some form of socialized medicine without, however, accomplishing the desired effect. Sickness insurance was introduced in Germany and Austria at a time when the working class was not represented in the political institution, but it was left in control of the insurance societies. These societies were then turned into a political weapon. They have been so anxious to give benefits to the insured that they are today in a miserable financial condition. The magnificent palaces erected to shelter their services are for deception

Nearly every where sickness insurance has been instituted, little attention has been given to the workers or the physicians, the two parties most concerned.

An illustration of the depths to which the medical profession can sink under a system of socialized medicine is to be found in excerpts from the personal diary of a Russian physician, extracts from which have been printed in the American Medical Association bulletin for May, 1934. This physician wrote that while he and his colleagues were required to examine eighteen cases each a day, thirty-five was the average number which they were actually forced to see, and that, of course, this overwork resulted in only cursory examinations and often in merely the issuance of slips entitling the patient to receive his insurance benefit The long hours of work necessary precluded any chance of the physician having opportunity for scientific study or research to keep abreast with advances in medicine.

When the physician went to the president of his house committee with the timid request for some of the facilities which engineers and technical workers enjoyed, he was told that he was an ordinary employee. He did not even enjoy the privileges of veterinarians.

Although this diary may exaggerate the facts somewhat, it is reasonable to believe that there is a foundation of truth underlying it.

The failure of sick and insurance programs in various countries is due to the insufferable extra duties imposed upon members of the medical profession and the huge increase in sickness brought about through the payment of sick benefits.

That they are experiments which have failed is shown by the fact that both old and new systems are still changng with great rapidity. Meanwhile, even the most radical proponents of change in this country are willing to grant, that the standards of medical care in the United States today are higher than those to be found in any other country in the world, regardless of the system of medical care under which it operates.

In our own country, in some states there is active agitation by agencies, not members of the medical profession, for certain forms of socialized medicine. Furthermore, the Federal Government has listed medical care as one of the four essentials of life, food, clothing and shelter being the other three. Consider for one moment the possibility of an American being told that he must purchase his food or clothing at certain specified stores, or that he must buy or rent his home in one particular section of the town. How long do you think the American public would remain content under this situation?

It is also now well known that the President of the United States in a recent message has come forth for the principle of social insurance, with special reference to old age pensions and unemployment insurance.

The report of the committee on the cost of medical care shows that the American people spend annually $3,656,000,000 for all form of medical care. However, only 29.8 per cent of this amount is paid to physicians in private practice; 23.4 per cent goes to hospitals; 21.6 per cent goes for medicines and cultists. The majority of the medicine purchased is self-prescribed.

The problem as we see it today, and as expressed by the American Medical Association bulletin, is not really one in which a large number of people are suffering from the lack of medical care; rather they are suffering from the burden, as they feel it, of paying for this care. We all frequently visit homes

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where the residents have automobile, radio, washing machine or other luxuries, bought upon the installment plan; but have not one dollar to pay for medical attention.

It is the belief of a majority of the profession that the preservation of the private practitioner is most essential; that the sacred relationship that has existed since time immemorial between patient and physician must not be destroyed. The individual contact between master and student of medicine, and between the physician and his patient, constitute the two great towers of strength of the medical profession.

We all have heard the accusation by laymen against the medical profession that members of the profession have been responsible for this era of specialization. We admit that group specialization may be laid at the feet of the medical profession, but at the same time the public has become "specialist-minded," and has increasingly demanded the services of a specialist when they are not indicated.

It is my belief that if we are to return to a system of practice where the basis of the profession is the service of general practitioners, as most of us agree we should do, it will be necessary to begin the change at the source of members of the profession—the medical college. In most of these colleges today the faculty is composed of full time professors who are, as a rule, highly specialized, and as such likely to inspire the desire for specialization in their students. As a consequence, the young graduate doctor serves his internship with the thought of becoming a specialist ever in his mind.

I believe that the medical student should be inspired to look upon general practice as a highly desirable field which is indispensable in furnishing experience and back ground necessary to the competent specialist.

A great deal has been written, mostly by specialists, about the preservation of the private practitioner; but little has actually been done about it.

Based upon a study of a number of physicians that would be able, with proper distribution, to efficiently serve the public, we have an excess of 35,000 doctors in this country today. There is an average of one medical doctor to every 780 persons in this country at the present time. Consider for a moment the ratios existing in any country in central Europe. In England the ratio is 1 to 1,490; in France 1 to 1,690; and in Sweden 1 to 2,890; and in Kentucky 1 to 978.

The ratio has gradually decreased in the United States although in the past twenty-nine years there has been a large reduction in the number of medical schools in the country, and a stiffening of the entrance requirements to such schools. In 1905 there were approximately 160 grade-A medical schools. Today, we have only approximately 75 of such institutions, ten of which give only the first two years.

In order to bring the ratio of this country to the proper proportions of 1 to 1,100 or 1,200, the medical profession believes it is necessary and desirable to accomplish this aim either by limiting the number of institutions or by restricting the number of students that may enter the existing institutions.

At first consideration, the exclusion of ambitious young people from the profession of their choice may seem undemocratic, and out of keeping with the principles of this Republic; but when it is understood that the overcrowding of the profession is creating a condition whereby many of the practitioners have little chance of earning a satisfactory livelihood, it can be seen that such a course would be accomplishing the greatest good for the greatest number, the very foundation of democratic principles.

This plan is being successfully employed in Sweden, and by recent legislation in the Province of Alberta, where the restriction will remain until the ratio has reached 1 to 1,200.

Many prophets have during these years of depression devised plans that would solve part of the problem, and have made economics a common topic; but bear in mind, all of these plans have as a foundation, financial aid for certain groups connected in no way with the medical profession, groups that in no way recognize, or care to recognize, the depth of the issue.

The patient's choice of the physician is often given little or no consideration by these agencies, who have taken it upon themselves to provide medical care for those in the lower income levels. It would seem strange that while a financial obligation may disturb the one who is indebted, the real victim of the situation, the doctor of medicine, has not been the first to demand some method whereby he may receive just compensation for his services.

The American Medical Association, representing 100,000 physicians, is not opposed to all changes in the nature of medical practice, but it does stand for such principles that are essential to the maintenance of the high quality of medical care now offered to a great majority of the American public.

The American College of Surgeons at their recent annual meeting at Chicago on June 10, 1934, went on record as favoring a policy including a pre-payment plan for medical

care, restricted to the hospitals approved by the American College of Surgeons.

It is difficult to understand why the American College of Surgeons representing, as it does, only a small percentage of the medical body of the country, should take such action when it is clearly understood by practically all members of our profession that if anything beneficial is to be accomplished, it must be through the unified action of the profession as a whole. The only organization representing the profession as a whole is the American Medical Association. The American Medical Association in recent issues of its publication has disapproved of the hastiness on the part of the College of Surgeons in making open recommendations.

Meanwhile, a committee of the House of Delegates of the American Medical Association has advocated the following principles as suggested by the Board of Trustees, in a pamphlet entitled "Sickness Insurance Problems in the United States," and urges that they be followed by all constituent bodies of the American Medical Association as bases for the conduct of any social experiment that may be contemplated by them.

First: All features of medical service in any method of medical practice should be under the control of the medical profession. No other body or individual is legally or educationally equipped to exercise such control.

Second: No third party must be permitted to come between the patient and his physician in any medical relation. All responsibility for the character of medical service must be borne by the profession.

Third: Patients must have absolute freedom to choose a legally qualified doctor of medicine who will serve them from among all those qualified to practice and who are willing to give service.

Fourth: The method of giving the service must retain a permanent, confidential relation between the patient and a "family physician." This relation must be the fundamental and dominating feature of any system.

Fifth: All medical phases of all institutions involved in the medical service should be under professional control, it being understood that hospital service and medical service should be considered separately. These institutions are but expansions of the equipment of the physician. He is the only one whom the laws of all nations recognize as competent to use them in the delivery of service. The medical profession alone can determine the adequacy and character of such institutions. Their value depends on their operation according to medical standards.

Sixth: However the cost of medical service may be distributed, the immediate cost should be borne by the patient if able to pay at the time the service is rendered.

Seventh: Medical service must have no connection with any cash benefits.

Eighth: Any form of medical service should include within its scope all legally qualified doctors of medicine of the locality covered by its operation who wish to give service under the conditions established.

Ninth: Systems for the relief of low income classes should be limited strictly to those below the "comfort level" standard of incomes.

Tenth: There should be no restrictions on treatment or prescribing not formulated and enforced by the organized medical profession.

The report of the Committee was adopted, section by section, and as a whole, on motions of Dr. Van Etten, duly seconded and carried, with the substitution of the words, "legally qualified doctor of medicine" for the word "physician."

In the medical profession, as in any other, hope for the future integrity and progress lies with the young men, who will in future years replace the present leaders. If the incentive of these young men is blighted by the institution of socialized medicine through regimentation, there will result a stagnation in progress, and after several decades of such a system, the medical profession will have lost much of its past progress and high idealism.

It is my belief that we, as an organized body of physicians of Kentucky, must be constantly alert to the problems involved in threatened socialization of medicine, and must be ready to stand firm in the demand that the control of medical treatment must remain in the hands of the medical profession. In active measures that we may take, the best interests of both the medical profession and of the suffering humanity it serves may be best protected through our adherence in every respect to the recommendations offered by the committee of the House of Delegates of the American Medical Association, which are practically identical with those of our own Council of the Kentucky State Medical Association. It therefore behooves us to present a solid front to any enemy that may threaten the integrity of the profession, or to take its control from those disciples of Hippocrates, who have builded it to its present high state.

DISCUSSION

Virgil Simpson, Louisville: Mr. President and Gentlemen, the mere passage of resolutions by county organizations throughout this and

other states in the United States will not accomplish all that you want done. One of the things, I think, that you must come to realize is that along with the rest of the state of flux in economic conditions throughout the country, that of medicine must share in the change, and that if it is believed that there will be no change worked in the system of the practice of medicine within the next decade, there will be disappointment. We have to go along with the tide, but if we intelligently undertake to direct the changes that medicine must necessarily undergo, we will suffer less from the standpoint of our individual and professional pride as an organization and perhaps the public as a whole will suffer less from changes that may come from so-called socialization.

There as so many angles to medical economics that one feels some embarrassment in selecting what one might consider the most important items. One of the things that confronts those of us who are practicing in centers where hospitals are located is the question of hospital insurance. We believe, along with the pronouncements of the Council on Medical Ecnomics of the American Medical Association as approved by the House of Delegates, that the best plan for hospital insurance for the public, if there is to be some change, is to have the hospitals act as a group, to have a common blanket form of insurance in which all the hospitals of a given community participate, so that the person who buys that sort of protection buys a thing that permits him to be admitted to any hospial of his choice, which in turn carries with it the implied liberty of selection of his own physician. It does happen in many places that all the physicians in a given community are not permitted to or do not practice in all the hospitals, they are the so-called closed hospital types.

A blanket insurance of that sort the profession, I think, need not object to, because it enables the individual to lay aside so much money, which in turn provides for so many days of hospitalization so long as he has the liberty of choice of the hospital, but for hospitals in a city, each to undertake to sell individual policies, with the tremendous overhead of the selling agency and with the liberty of entering any hospital denied, closes the door to that avenue of liberty of selection of physician which we insist should obtain.

The question of sickness insurance has been discussed here in the House of Delegates and has been discussed muchly in the literature both in state and national journals. Personally I think that there could be worked out a system of sickness insurance which would be rather provident for the improvident; in other words it would offer an opportunity for an individual to lay aside a small sum weekly or monthly which would provide for him the payment of a definite sum of money in cash, not in kind, but in cash, which he in turn could spend for hospital care if he needed it, or for medical services if necessary. If you place that kind of a sum of money in the hand of the individual who has carried the insurance, there should be no objection to it, but it does carry with it tremendous implications because when there is built up tremendously rich organizations behind a thing of that sort, the next thing that happens is they are controlling the medical care of the individual who has bought insurance.

One plan that has been sucessfully worked out in New Jersey consists in establishing a Sickness Savings account, somewhat after the fashion of Christmas Savings accounts. This permits a wage earner to deposit in the bank a specified sum weekly or monthly through the year and which is not permitted to be withdrawn, with its interest, until the end of that period. The wage-earner may in the case of sickness issue an order on that account to his doctor, which can be cashed at the end of the year. That kind of sickness insurance really encourages thrift.

C. A. Vance, Lexington: I was pleased to hear it, this very timely paper and was also pleased to hear Dr. Simpson say that which he did about it. I feel that the relation between the patient and the doctor should not be disturbed in any way. We have heard discussions of this in the Council meetings and in the House of Delegates for two years now, and the best one I have heard is the one we heard the other day on the ten-point program and the English system, by Dr. Leland.

Earl C. Yates, Lexington: Unfortunately the medical profession follows traditions, and those traditions up to the present time certainly have carried a great many of us through, but the fact still remains that the younger generation, of which I happen to be a member, in the medical profession will have to bear the brunt of this so-called socialized medicine. I do not feel, however, that the course is going to reach chaos at all by the trend which things are taking.

As Dr. Simpson has inferred, we will certainly have to follow the natural change of the economic status of the United States. Things are going on rapidly in the various communities. For example, in our own community recently the politicians themselves put up two projects in a bond issue which involves an expenditure of approximately $2,000,000 and out of that goes $50,000 for building a beautiful new building for taking care of indigent cases in the City of Lexington. We have a basement in a new hospital that could be utilized for the same purpose, with an out-patient department at an expenditure of only $5,000. No one in the medical profession dares say anything because it

would interfere with the bond issue, which is necessary, and it entails the expenditure of one and three-quarter million dollars for a new sewage system which we badly need.

These men are very slick in pushing over their projects. The medical profession has been slow. The dentists apparently have taken the initiative and have gone much farther along than the medical profession. Dr. Sinai has been appointed at $5,000 a year by the dental profession of the United States to travel in foreign countries to get all the different methods used, their pitfalls, their attempts to correct them, and just what the opinion of the various members of their particular profession is in various countries in which socialized medicine is practiced. He has given a great deal of material that has been very enlightening to the entire dental profession.

In this country the attempt has been made, and they have carried on a survey in Michigan which has been very enlightening and very thoroughly studied. They are establishing a policy there in an attempt to outline something for the future to meet this change which we all will have to meet in another form.

It seems rather difficult that the medical profession itself will not take the initiative, rather than the dental profession. One thing is wrong. Do not misunderstand me when I say this, but it is true. We apparently are spending too much time fighting one another rather than getting organized. The well organized minority always controls the disorganized majority, as is shown here by the American College of Surgeons in their recent statement, coming out in favor of some form of socialized medicine or insurance. The same thing is true in all of our groups. We look through our hospital rulings, and the American College of Surgeons, which is certainly the minority, has outlined the plans and the rules of the entire institution, when the majority of the men are medical men and general practitioners who are supporting the institution. In other words, the surgeon has outlined the rules whereby you practice medicine in that particular institution. It is true all over the country.

That is only one small example of the thing that is being carried on in this country now, not only here, but in other countries as well. It is so easy in the medical profession to let the other fellow do the work and just take the benefits of the work he does.

If there is such a thing as medical ethics we don't know what it is. That is one thing that is going to slow our progress in establishing and formulating something constructive for the benefit of all, which is certainly what we need.

R. G. Leland, Chicago: Sometimes we forget in the discussion of medical economics problems that the medical profession is not a static organization or body of men. From time as long ago as two or three thousand years, and more particularly within the last few hundred years, the medical profession has been decidedly dynamic and progressive. I wonder how far public health movements in the United States or in the world at large would have gone had it not been for the initial movement of the medical profession, and in that movement the physicians of the world have not been selfish, they have been decidedly unselfish in that in many instances they have almost completely cut off sources of revenue by making available to the public means by which disease could be eradicated.

The interests of the medical profession as stated in the Principles of Ethics and as stated in the Constitution of the American Medical Association is primarily the interest of public welfare. It has been because of this that the medical profession has repeatedly warned against various types of medical practice which were not for the interest of the public good.

We have found in all parts of the United States, present forms of medical practice which have grown up insidiously, slowly, but surely, to the disadvantage of the public and the medical profession as well. These forms of practice have enlarged to the extent that in the State of Washington the entire state is now organized into about eight medical service bureaus which are corporations of physicians practicing medicine with the ostensible purpose of putting out of business the contract practice groups which have been established there for many years, and these medical service bureaus are using exactly the same kind of tactics that were used by the contract practice groups that they seek to put out of business; they use solicitation; they contract the medical market that was paying them full fees by covering them with contracts; they are using all kinds of methods used by contract practice that are covered by the Principles of Ethics and that are dangerous and destructive to medical practice in general.

The medical profession has not been sitting idly by doing nothing. Many studies have been made throughout the United States. The study in Michigan cost a great deal of money, and I would not have you feel that Michigan has certainly launched forth with a socialistic insurance program. The work done there was a very good piece of study work, but at the recent meeting of the House of Delegates held last month the recommendations for social insurance brought in by the study committee were set aside by the House of Delegates and put in cold storage, if you please, for the time being at least, and the committee was authorized or instructed to continue further study.

The most acute situation, perhaps, is that in California where the last legislature appointed an interim commission to study the needs for change in medical practice in that state, and it

is believed that in the next session of the legislature a recommendation will be brought forth for a form of social insurance or sickness insurance in California. The California Medical Association is very much disturbed over the possible outcome there.

In other states the medical profession is not entirely disregardful of the social changes that are going on. A very creditable study has been made in Wisconsin, very helpful studies have been made in New York, and are now being made in California, Connecticut, in Massachusetts and other states.

I think the medical profession of the United States to maintain its position as a very interested party in the pubic welfare must continue its awareness of the imminence of certain forms of social changes that are being forced upon it by people outside of the medical profession who would regiment and restrict it in its activities. We believe that those forms of social change that have taken the form of sickness insurance in Europe have been inimical to the welfare of the public in those countries. We believe that the kind of medical service that those people are getting is not the kind of service that they ought to get with a free and independent medical profession, therefore in the interest of the public welfare, we ought to maintain our interest in and preserve those principles which we believe will protect the individual and public health.

I would like to clarify just one statement which was made by one of the discussants. Dr. Sinai, to be sure, studied sickness insurance in Europe and he made a recent trip to Europe for the same purpose. However, Mr. Simons, whose name appears first on the book, "The Way of Health Insurance," by Simons and Sinai, is my own assistant in the Bureau of Medical Economics at the American Medical Association. He also traveled in Europe at the same time that Dr. Sinai traveled in collecting data for "The Way of Health Insurance."

With respect to group hospitalization we believe that some experiments are perhaps worthy to determine just to what extent group hospitalization may lift some of the problems of medical care. However, we are of the opinion, and strongly so, that group hospitalization will be much less troublesome, much less dangerous, to the medical profession if group hospitalization shall be confined to hospital care only and shall not include the marketing of medical services. We believe that it is not necessary now, as it has never been before, to bring in between the medical profession and the public a third party, an entrepreneur of medical care who takes a profit from both the public and the medical profession.

The principles which were enunciated and adopted by the House of Delegates in Cleveland this year I believe are so clearly stated that they need no further explanation, but we wish to reaffirm our stand that in all its interests the medical profession should maintain the welfare of the public as a primary interest, and whatever advantages, or benefits which may accrue to the medical profession from the maintenance of principles that have proved valuable and sound should be of secondary consideration.

C. G. McLean, (in closing) : I noticed an article in the Courier-Journal two days ago entitled "Doctors, Dollars and Disease." It seems that there will be a series of some thirty broadcasts on this subject over CBS. In my opinion broadcasts of this kind can be of no benefit to anyone. I believe it is our duty to investigate this sort of publicity and should it be contrary to our views we should certainly voice some opposition.

HYDROTHERAPY IN THE TREATMENT OF OSTEOMYELITIS*

Richard T. Hudson, B. S., M. D., F. A. S. C

Louisville.

My purpose in writing such a paper is to bring to your attention the unappreciated cleansing and healing powers of ordinary tap water in the treatment of chronic bone and joint infections.

During the past decade more progress has been made in the treatment of osteomyelitis than since the time of Lister.

The monumental work of Dr. Winnett Orr, of Omaha, Nebraska, has done much to change our conception of the treatment of bone infections. He emphasizes the two cardinal principles of treating infected wounds; namely, Drainage and Rest. I am sure these points are not fully appreciated today.

At best, the most we can do is to help nature heal a wound. To my mind, the various antiseptics that we have been taught to use in chronic infections are highly over-rated and frequently disappointing. Personally, I believe the application of an antiseptic to either an acute or chronically infected bone cavity is useless.

Albee says there is an autogenous bacteriophage formed in a case of osteomyelitis, and to wash the wound with antiseptics at the time of operation inhibits or kills this substance and actually delays healing.

I can still remember the first case of osteomyelitis I was called upon to treat, as an intern. The patient was a boy of twelve years, with extensive acute osteomyelitis of both tibiae. A "guttering" operation was done and the wounds packed with iodoform

*Read before the Jefferson County Medical Society.

gauze. It fell my lot to dress him daily and I can assure you this was anything but pleasant, pulling the dried gauze from the tender, bleeding, bony surfaces and irrigating the wound with hypochlorite solution.

What a contrast is the Orr treatment of today! I am in thorough accord with Dr. Orr in his method of operation and immediate after-care. The later after-care is what I want to describe to you in this paper.

The treatment of acute and chronic cases of osteomyelitis is essentially the same, as all the acute cases soon become chronic ones. The only variation is in the extent of the operation. It should always be remembered that a septicemia is present in an acute case and the treatment of this with transfusions, intravenous solutions, etc., is just as important as that of the local bone lesion. The diagnosis must be made clinically and operation is the treatment as soon as the diagnosis is made. I believe that point tenderness over the suspected area is one of the most important signs.

The operative technique: A tourniquet is applied to the limb and the soft tissues opened by a straight incision and retracted laterally. The suspected bone is opened by drilling small holes in the cortex and if pus is encountered a liberal window is cut in the cortex with a chisel, or preferably with a motor saw, as suggested by Isidore Cohn. The wound is then packed with vaseline gauze, to keep the soft tissues apart and insure thorough drainage and healing from the bottom. Albee advised a "saucerizing" operation being done and the wound being bathed with an autogenous phage, prepared from a previous culture from a sinus. He then packs the wound with a paraffin-vaseline mixture, inserting a catheter into the depth of the wound so that it may be irrigated once or twice a week, with 10 c. c's. of specific phage. If a spontaneous phage can not be made he recommends the use of a laboratory-bred one. He feels that the bacteriophage is not only a successful, local agent, but helps to establish possibly a general immunity on the part of the patient. I have had little experience with the use of a stock bacteriophage in osteomyelitis, having used it in only two cases, with disappointing results.

I do believe, however, that an autogenous phage does form soon after operation, which is of value and should not be disturbed by the introduction of antiseptics. After packing the wound wide open, with the vaseline gauze, a Plaster of Paris Cast is applied, including the joint above and the joint below the disease, as in a fracture, to insure perfect immobilization. In some cases I have used a compression dressing of twelve to fifteen layers of sheet wadding over which flannel bandage and adhesive is drawn tightly. This immobilizes the part sufficiently and insures hemostasis if there is fear of hemorrhage. My routine has been not to dress the wound for two weeks if there is no rise of temperature or other signs of sepsis or extension of the infection. The cast is then bi-valved, the two halves being used as splints. All the dressing and packing is removed from the wound and hydrotherapy begun. The technique is important. This consists of placing the patient's entire body in a tub of warm, running tap water at approximately 110° degrees F. This is done twice, daily, for periods of at least two hours during the morning and two hours during the afternoon. The wound is then lightly re-packed with vaseline gauze and the halves of the cast re-applied to insure immobilization. There is a decided advantage in having a large tub or pool so that the whole limb may be immersed in the solution in a horizontal position. This removes the force of gravity so that the patient can move the disease or inflamed joints with much greater ease when supported by the water. Movement is so effortless and painless that they soon lose the fear of pain and active motion returns unconsciously. The reaction is quite remarkable. The warm water is soothing and the gentle massage and stimulation created by the flowing of the water over the parts, helps to improve the circulation and hasten healing of the wound. It is surprising how quickly the thick, purulent discharge and offensive odor disappear and healthy red granulations appear. It has been my experience that these changes occur more rapidly than by the use of maggots or the viable antiseptic, as recommended by Baer. Further, the psychological effect is far better than with maggots. The limb does not become "water-logged" or edematous as one might suppose. I have never had any difficulty with spread of the infection or superinduced infection that one might suppose might take place. The discharge disappears so rapidly, healing seems to take place almost primarily. Also, there is not the foul, offensive odor that is present if the old casts are left on for weeks, as advised by Orr. The cast and packing is removed after two weeks, because if left in place longer, the granulations grow up through the meshes of the gauze and there is often very troublesome bleeding and pain in removing the dressing. I do not feel that the dressing should be removed sooner as there is apt to

be much pain before granulation tissue has formed.

I have used this method in over twenty-five cases, which is a rather small series, but I have always been highly gratified with the results. The cases include some of osteomyelitis of the tarsus, some involving joints, such as the hip, knee, ankle, shoulder, elbow and wrist. Also, in involvement of the flat bones, as the ilium and scapula, which are very difficult to treat by the Orr method.

Cases of chronic infection of bones and joints respond quite as rapidly as do acute cases. More judgment must be used in the time and extent of operations on chronic cases. I do not feel that extensive removal of necrotic bone should be done in chronic cases, until sufficient new bone or involucrum has formed to support the limb and prevent subsequent deformity. I do not think subperiosteal resection of a bone should ever be done, even in children, though many cases have been reported where an entire new shaft has regenerated after the procedure. Of course, the surgeon should be guided by the amount of toxin the patient is absorbing and his general condition. I have used hydrotherapy, as described, after the Orr treatment in these chronic cases for the past three years and so far have never had a recurrence of the infection or spread to other bones of the body.

I believe when there has been a thorough operation in the first instance, by which I mean removal of all necrotic bone present, the breaking down of all bridges and overhanging edges, and leaving the surface smooth to heal from the bottom, the cases of re-operation will be reduced to a minimum.

Brockway, in an excellent article on treatment of osteomyelitis in the salt water pool, has definitely proved the efficacy of this form of treatment. I have no doubt a warm hypertonic saline solution is even superior to tap water as the osmotic effect of a hypertonic solution would be more effective in clearing up the discharge in a chronically infected wound. I have not had access to such a pool, but I am firmly convinced that the advantages of immersing these cases in just warm running tap water is certainly sufficient to warrant its use in these chronically infected bone or joint cases. By this method I have been able to accomplish the same results in healing in two months, that have taken six months by the Orr method. Another advantage is the fact that the patients can carry out the treatment quite as effectively at home as in a hospital, which is certainly an economic factor many times.

Summary

(1) I do not feel the remarkable advantages of hydrotherapy in chronic infections of the bones and joints is fully appreciated.

(2) The psychological effect on the patients, of the warm soothing bath, and the clean healthy looking wound, over the use of maggots, or the long continued use of foul smelling, messy casts is surely no small item.

(3) The early and more complete restoration of function of the joints involved has been quite gratifying.

(4) I am sure the chances of extension of the infection or its spread to other bones, with later operations, are greatly reduced by the use of hydrotherapy.

DISCUSSION

John D. Trawick: I recall the criticism directed at Dr. Orr's method when he began its use during the World War, chiefly due to the extremely bad odor of his ward. Any one who has tried persistent immobilization after the Orr method must have been impressed by the foul odor which manifests itself. However there is no doubt about the efficacy of the method of immobilization leaving the wound undisturbed until the gauze is actually pushed out of the wound by granulations.

It has been my opportunity to observe quite a number of cases treated by the method Dr. Hudson describes, and I have been much impressed by the wonderful improvement over Orr's method. I do not know why secondary infection should not develop in these cases following the use of ordinary tap water, but so far not a single instance of secondary infection has been observed among the cases treated by this method.

R. T. Hudson, (in closing): I do not know whether or not sterile water has been tried in connection with this method. Dr. Brockway in his article, reports the use of a 7 percent saline solution, which under ordinary conditions is pretty sterile, but I do not believe it is necessary. We have had no trouble from infection. This method may seem to be more empirical than scientific but it certainly works and gets results rapidly, and that is what we want.

Effects of Hormones in Lutein Cysts.—Siegmund discusses the explanations that have been given for the development of lutein cysts. It seems that they appear when the hormone equilibrium is disturbed so that there is a pathologic predominance of the gonadotropic hormones, that is, in cases of cystic mole and of chorio-epithelioma. They develop from abnormally growing and ripening follicles. As the result of the presence of these lutein cysts, women are kept for weeks in a condition resembling pregnancy.

VITAMIN, ENDOCRIN AND ALLERGEN RELATIVITY*

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Louisville.

Life was originated and is maintained by the electro-chemical interrelations of matter, and the will of God.

Friction, punk and pine develop sufficient electricity to burst into flame. Crystalized flints struck by metals yield an electric spark. Silicates, like rock-crystal and glass rubbed with silk develop positive and negative electricity. Likewise amber, whale-bone and other substances rubbed with fur or wool develop positive and negative currents which may induce electro-magnetic currents in suitable substances like iron and other metals.

These induced electro-magnetic currents have the power to arrange or organize matter into definite structural formations according to the lines of magnetic induction or magnetic field due to current.

Matter, possessed of positive and negative electronic media, when subjected to the chemistry induced by warmth and moisture and aided by kinetic energy, is vibrated into motility or life by the short wave of the ultra-violet sun-rays.

An electro magnetic effect may thus arrange an organic primary cell.

This cell will be governed by definite physical laws of mutual electro-chemical exchanges between its ion bearing atoms.

This exchange of ions is determined by the relative electro-chemical potentialities of the atoms.

Briefly, interrelations in origin cells take place in a constant and characteristic way, which is known as the physiologic metabolism of chemical substances or food, from without the cell, into protoplasm or living matter, within the cell.

The electro-chemical regulators of these cells in plant life are at present called vitamins, which are probably developed under the influence of soil, climate, moisture and solar rays. Thus the fittest chemical regulator for each location is arrived at, and a type or species is established by heredity and environment.

In this way it seems possible the various vitamins or regulators essential to life under all circumstances of nutrition and climate, may be developed.

In this way, perhaps refinements of electrical reactions similar to those developed between silk and silica, wool and amber now cause specific electro chemical control through vitamins, of nutritional relations, characterized by growth and function.

Thus one plant forms vitamins stimulating cell growths, like glutathione of yeast plants; another in the maple tree forms glycogen; another, in onions, forms glukokinin, which possesses the physiologic characteristics of insulin.

Both plant and animal cells are composed of: hydrogen with ions susceptible of induced electro-chemical exchanges; carbon for combustion; nitrogen with a force exhibited in mushrooms sufficient to raise untold weights; phosphorus, calcium, iodine, sulphur, metals and other elements variously affecting ion exchange or electro-motivity, also, are cellular constituents.

The plant cell, which becomes vibrated to motility or life by the ultra-violet short wave, receives electro-chemical attractions from the combining constituents of the soil and the atmosphere.

Roots and branches thus develop and become the media of electro-chemical exchange.

These plant cells acquire phosphorus, calcium, cholesterol and protein essentials for protoplasm, from these nutritional elements found in the soil and atmosphere.

Protoplasm of plant life differs in no respect from that of animal life, except plant metabolism develops its own protoplasm, and as stated by Huxley, animal protoplasm must be acquired either from plants or other animals.

So too, must the accelerators of cell activities, the vitamins or plant hormones be acquired by animals from vegetables or other animals.

These plant hormones become synthesized into the animal hormones of the various endocrines.

The plant being without locomotion is limited in the development of its vitamins to the characteristic chemicals of its locality.

The animal possessing locomotion may acquire all vitamins for building its own hormones through ingestion of the various plants. Vegetable type, however, is developed characteristically from the local food and environment.

Blue-grass, for instance, is found only where the ordovician geologic outcropping of limestone occurs in temperate climates. Therefore it will not thrive without this calcium content of the soil and a temperate climatic environment.

In the generations required in establishing its type, it developed those life principles, or vitamins, best suited to operation in such soil and climate.

These life principles or plant hormones in

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general, control water distribution in the tissues, which unites with oxygen in initiating electro-chemical activity. They control glycogenic and fat forming functions; reduction and other physiologic steps of plant life.

Just as the plant is able to originate its protoplasm, so its vitamins, or chemical regulators are formed automatically from available chemicals and fashioned to fit the functions or electrical reactions necessary to its own peculiar existence.

Plants have no central nervous system; so their hormones are easily seen to control life processes entirely by electro-chemical interrelations.

These vitamins act as catalysts, as their presence induces the oxidative and reduction changes essential to plant metabolism.

Most of the vitamins, or plant hormones, are reducible to a crystaline form. When from drouth or deficiency conditions the plant relapses into a state of apparent abeyance of life, it is possible these hormones have assumed a lower order of life, crystalization, and may again be aroused to life under suitable circumstances of electro-chemical environment.

In the germinal cells of plant seed are stored all of the electro-potentialities of life.

These cells are again awakened to activity, by the influence of the ultra-violet rays upon the electrons and protons of the vitamins of the plasma.

This electro-chemical potentiality which has been stored within a cellulose insulator or pericarp, or seed pod is burst by the chemistry induced by warmth and moisture, and the "voltaic cells" of the seed, thus begin the electro-chemic exchanges of plant life through hydrogen, carbon, oxygen and the other proximate principles. Perhaps explosive nitrogen burst the seed capsule.

Many of these vitamins may again be crystalized, in certain combinations and remain inert, even unfrozen, and again be activated to mobile life.

Life in cycles is thus maintained from generation to generation and the type perpetuated through its vitamins or plant hormones.

The various vitamins identified at present have been most inconveniently designated alphabetically, A, B, G, C and D. Many other vitamins are now being observed so titles more descriptive of the action of the plant hormones, are being used; as sex hormone in those possessing sex stimulating power; growth hormone in those growth stimulating power; or they may be named from their chemical formation, like glutathione.

These plant hormones, ingested by man in great multiplicity, become synthesized into the various hormones of the endocrine.

Vitamins are fat and water soluble. Milk contains all the vitamins ingested by the animal from which the milk is obtained. Therefore, if the milk to be used, be bovine, it is better if obtained from a herd with a wide range of vitaminous food, rather than from one cow and a limited pasture.

The new-born baby possesses the potentiality of perpetuated life forces.

These are stored in the endocrins of their various glands.

These hormones, endocrins, or accelerators of metabolism as they are variously designated, are used up in the performance of their functions of maintaining life by their electro-chemical activity. Their molecular valence is dissipated or equalized in the building up and tearing down exchanges of constant metabolism.

This may be observed in the colloid material of the thyroid cells, which appears in the foetus as early as the second month. It disappears at birth, but reappears in the infant (after the ingestion of food vitamins) and remains throughout normal life.

Thus it is that animal endocrins as well as animal protoplasm must be acquired from vegetable sources, otherwise deficiency disorders, allergies or death must follow.

Life cycles in the human are maintained by electro-chemical activity; activity began with the union of the chromosomes of the egg and of the sperm.

Through genes, of which there are forty-eight in the human, the endocrines are perpetuated. These determine the characteristics of both physical and mental type which constitute racial and familial resemblances These similarities have been observed continually for two thousand years.

This repetition led one wiseacre to say, "The hen is but the egg's way of making more eggs."

If environment vary the vitamins consumed, variations in growth and function may be wrought but the type remains unchanged.

For instance the ancient Semitic race maintains, even to the present, its type. Yet tribal differences may be observed in those who for generations have consumed English, Spanish or Russian localized vitamins.

There has been a variation in the species, but the genes or kind is the same.

The perfect constitution with perfect co-ordination must be possessed of an endocrin balance. Hormone imbalance constitutes disease.

Each endocrin gland secretes one (or

more) chemical regulator or endocrin which is essential to life or health, and its function is similar to that of some vitamin.

The functions of these animal electro-chemical accessories, therefore, may be considered in the concrete primordial cell; in which life and growth must be maintained by the assimilation of non living, but electro-potential, food molecules, into living or electro-active cells. We find these teachings in the fascinating Physiological Chemistry, of Matthews.

Oxygen of the air associates with water and combines with some substance in the cell membrane.

Parenthetically, it may here be stated, that the water control, of the tissues, is due to the pharmacodynamic, or physiologic action of the posterior pituitary endocrins.

This compound of oxidation (continues Mathews) is very unstable. The energy of the oxygen does not at once flow into the membrane or other substance with which the oxygen is combined. That is, the exchange of electrons which is the real act of oxidation, has not taken place. (Please bear in mind that all oxidation or chemical activity means electronic exchanges.) This unstable or unsatisfied peroxide constitutes what is called irritable protoplasm. The cholesterol, phosphorus and lipins, present in all protoplasm and possessing calcium electrolytes aided kinectically have been activated by the vitamin D's electric reaction to the ultra-violet short wave. Vitamin A, so akin chemically to cholesterol, must partake of this awakening; growth hormones, like the anteriorpituitary body next, probably receives stimulation. Glutathione, the hydrogen-sulphur compound found in vitamin B sources like yeast, and having the hydrogen acceptor qualities of the anteriorpituitary endocrines, possibly begins oxydation by withdrawing hydrogen from such constituents as succinic acid and its congeners and also stimulates growth and the bursting of germinal cells.

Returning to Mathews—"This irritability (or feeble stability) lasts until oxidation is complete. Or until electrical equilibrium or electro-chemical valence has been again satisfied; or the so-called saturation point has been reached; possibly the isoelectric point."

"On the inside of the cell membrane," continues Mathews, "are amino-acids, glucose and fatty acids which must be energized. That is made living cells."

There are certain substances (says Mathews) which can bind these amino-acids, fats and carbo-hydrates to the membrane in conduction i. e. electrical union. Possibly insulin acts this way.

These substances are called catalysts, oxydases, internal secretions; autacoids or endocrins and vitamins.

The dead molecules of these source substances now become oxidized, energized, or electronized into living cells. The current action or blaze current is inward.

As a result of these actions, glucose, fatty acids or amino-acids are united in a conducting union with the source of energy which is the oxygen molecule. Any stimulus after this union causes the energy (or impulse) of flow inward from the oxygen. It comes in the form of an electron stream passing outward to the oxygen.

In normality there now probably results a state of relative electro-chemical equiliorium in the cells; a balanced ion exchange.

In the foregoing scheme, says Mathews, it may be that one of the intermediate substance is insulin; one may be thyroxin or there may be other hormones. It is thus that these activators, hormones, or other rousing substances stimulate metabolism. Thus may be seen, as Mathews pictures, the actual metabolic steps of vitamins and endocrins in beginning and in sustaining life.

Glutathione, (the hydrogen-sulphur compound found in a vitamin B fraction of yeast, and mammalian livers and muscles) is hydrogen acceptor, which is believed to be the catalytic agent which permits the union of the oxygen with the cell membrane.

Thyroxin, tethelin, and possibly other anterior pituitary hormones which stimulate thyroid secretion may be included in this hydrogen acceptor class.

Mathews quotes Bohor in illustrating the relative difference in the activity of electro-active and electro-passive or dead hydrogen atoms.

Mathews says the hydrogen atom of non-living matter is relatively stable and inert, the molecular equation is satisfied.

In such an atom the negative electron is revolving about the positive electron at the center of the atom is a small orbit. The atom is small.

The atom may absorb energy from either the ultra-violet light, or from kinetic energy. After this short wave vibration, or life-giving impulse, the electron moves at a higher velocity in the new orbit.

In this later or life giving form the atom is very unstable and reactive chemically.

Protoplasmic transformations are attended by the processes of hydration, hydrolysis, and by dehydration.

When this union into living form takes

place, says Mathews, some substances fall into fragments.

Thus, possibly, sometimes originate pathologic or unsatisfied metabolites, or allergens, characteristic in their pathologic effect, of the symptoms of allergy.

Insoluble oxalates and its congeners, chemically evolved by the hydrogen acceptors, may be thrown, like the monkey-wrench, into the machinery of metabolism.

Without further elaboration we may state that the postulations, that all Life forces are controlled by hormones; and that all hormones are replaced by the synthesis of vitamins, are practically proven.

There remains to be elaborated, then, the place of allergens in metabolism.

Normality, or health is the undisturbed ability, of vitamin and endocrins to maintain a balanced molecular valence or electrochemical power in the performance of their physiologic or characteristic activities.

In other words, living organism is adequate, in itself, to the cure of all its curable diseases.

Allergens, or the causes of allergy, disturb this power of maintaining the equilibrium of electro-chemical forces in physiologic metabolism of normality, and excite, by some unusual electro-chemical exchange, a metabolism of abnormality or imbalance in molecular valence, variously classified into the syndromes of allergy.

The unusual electro-chemical exchange may be through the formation of uric acid or its congeners by the hydrogen acceptors.

Allergic manifestations may vary from the undisputed strawberry rash, in the allergically elect, to the anaphylactic death in one of an acquired change in constitution. This change has been effected by the electric changes introduced upon the protein of foreign or dissimilar types.

Allergy, or abnormal sensitivity, we believe, presents the pathologic state, or electro-chemical reaction, within the system of those subjects whose endocrins are not balanced; or at least are thrown into a state of imbalance, or dysendocrinosis, when foods or substances, normally non-toxic to others, are ingested and excite the symptoms consequent upon the formation of irritable or toxic metabolites. From this restricted usage allergy is rapidly passing to any condition of hormone imbalance excited by extraneous causes.

Allergens are unlike antigens which may be rendered electro-chemically inert by antibodies aroused in the system. On the contrary, allergens cause acute toxicity varying in degrees from hives, to death from anaphylactic shock, probably from a complex equilibrium or precipitation which occurs when the ions of the allergen and the ions of the anti-body come together in "such concentration that they form more than the saturation amount of non-ionized substance and still leave the ion product equal to the solubility product. (Cahpin.)

The allergic substance in the subject of dysendocrinosis, may be simply an antigen in the subject of endocrin balance of normality, and excite neutrality by arousing an equivalence of anti-bodies. Thus it may be seen the line of distinction between allergy and other pathologic metabolism is only one of degree.

Phylaxis expressed immunity; prophylaxis in behalf of, or favoring immunity; and anaphylaxis means without immunity or without the power to resist.

When a subject is vaccinated against smallpox, the individual is usually found to be without immunity to the allergen that excites the syndrome of vaccinia and of smallpox. After immunity has been conferred by the desensitization of the organization; possibly by rendering an electro-chemical state in the molecules forever repellant, or inert, as an anion, to the electric changes introduced upon this "infective" molecule, then anaphylaxis, has been changed to phylaxis. Immunity is probably due to the electro-chemical potentiality of the endocrins in combination with the phosphatides of protoplasm.

Just as in the stomach food arouses hydrochloric acid and pepsin to hydrolize and oxidize these electro-chemical potential molecules, so do bacteria or other foreign substances in the blood, arouse phagocytes of the reticulo-endothelial system, by which a similar electrolytic activity is accomplished in the molecule. This is only conceivable through electro-chemical exchanges which are maintained by the endocrins or sources of such power.

Affinity, electric attraction, unsatisfied molecular construction or whatever name that may be given to this exacting or attracting force, is based upon electronic inequality, or the impulse generated between the protons and the electrons in seeking ionic equilibrium.

This is the catalytic effect of the endocrins.

Desensitization of cells, possibly means electrolytic solution pressure, and osmotic solution pressure have become equalized through these electro-chemical exchanges. Such immunity may not persist, longer than this equality is maintained.

The allergically elect are the same as the class, spoken of by Lyman, Haig and others, as the acid dyscrasia or uric acid diathesis;

and those in whom Bouchard observed autointoxication, some today, have introduced the new word atopy. All are now embraced by the expression, dysendocrinosis; or disturbed endocrine activity. This may be due to disturbed vitaminosis permitting a lack or excess of vitamin assimilation, or it may be due to an inherited abnormal endocrine activity, transmitted through ancestral genes. Always the term, dysendocrinosis, clearly visualizes the state of hormone imbalance, either hereditary or acquired through disturbed vitamin synthesis.

Therefore this tendency to classify all disorders of metabolism as allergy or sensitivity is a revival of the unsatisfied research concerning these still unsettled questions of metabolism.

Dysendocrinosis is a comprehensive term, sufficiently elastic to meet all requirements; yet specific in statement enough to apply to diabetic, tubercular, or hay fever pathology.

The endocrins are fat and water soluble; stable and labile in acid, alkaline or neutral media, isoelectric in moisture, dryness, heat and cold.

McCollom and Simmonds have demonstrated that lecithins, phosphorized proteins and other organic compounds can be synthesized from inorganic compounds or phosphorus.

Synthesis, or growth, is accelerated by the ultra-violet ray, as it hastens the taking up of oxygen and the giving off of carbon dioxide and other volatile substances.

Again it may be seen if the exchange does not result in desensitization, other volatile substance, nitrogen, phosphorus or sulphur, etc., given off may represent irritable or unsatisfied metabolites having the dynamic effect of allergens.

Phosphatides, cholesterol and protein produce the peculiar semi-fluid emulsion of protoplasm.

The phosphatides with cholesterol are said to make the essential substratum of all living matter.

Derivatives of cholesterol, however, are mentioned among the most powerful of heart poisons.

The phospholipins are acids or salts of acids that have been shown may unite with poisons in the system. They confer immunity if adequate; if not allergens result. Here may be seen on a clearly electro-chemical basis the development of allergens. Undoubtedly egg lecithin, that causes allergic manifestations in some, may be so explained.

The majority of subjects of gall-stones observed by me have shown cardiac arrhythmia, which was probably due to cholesteremia I have sometimes thought this might be explained by the relatively altered pressures under which the bile and the blood are secreted. Both may be factors.

These chemical substances of phospholipins, just referred to, are found in the lowest plant cells, as well as in man's brain.

Mathews says tetanus toxin, and the Wassermann reaction in syphilis, illustrate the action of the phosphatides by union with toxins, also with food, to effect the activity of protoplasm.

The phospholipins are found in many secretions in the stomach, in the endocrins, in milk, pancreatic and the other secretions of this class.

Phospholipins like lecithin stain red and are considered, like the colloids, electronegative or anionic.

Therefore subject to attraction but without attractive power of their own.

Oxidation is an increase of positive valence and this means a loss of electrons; reduction is the opposite of oxidation and means a decrease of positive valence, and involves a taking on of electrons.

Thus may be seen the explanation of electro-chemical activity.

Hydrogen may promote oxidation in two ways. Thus it is said succinic acid and some other substances may be oxidized like aldehydes are usually produced, i. e. by the withdrawal of the hydrogen atoms.

The formation of uric acid from alloxuric bases, is thus produced, by the hydrogen acceptors.

The shift of electrons and protons may therefore become an allergic factor.

The hydrogen acceptors are thyroxin, tethelin and some other endocrins, which we will see later are most frequently attended with allergic manifestations.

Hydrogen ion concentration is now seen as a threshold of allergen explanation.

Most of the endocrins exist in the form of nucleoproteins.

Nucleoproteins are metabolized acids which later are broken up into phosporic acid, sugar, purin bases and pyramidin bases.

Foreign proteins result in a similar disunion with altered electro-chemical potentiality. Likewise they may not be controlled by the system's specific electro-magnetic force lines.

Thus may be seen how the purin bases, or source of uric acid, invariably enters into the allergy.

Stieglitz, of Chicago, says "There are electrical changes on suspended bacteria and other suspended particles, the origin of which is the electrical structure of atoms."

Thus we see that neucleoproteins, or animal endocrins, which sustain life in its

every phase, are synthesized from vegetable endocrins or vitamins, which in turn may, in the process of metabolism, develop alloxuric metabolites, allergic in character.

Health is sustained by hormone balance; hormone imbalance, or dysendocrinosis, means disturbed metabolism with allergic reactions.

Thus it may be seen how Adam, the perfect man of the Garden, could not die until he ate the forbidden fruit, which ultimately caused allergic death.

Bulwer's Zanoni typified such a state of hormone balance or health.

A comparison of endocrins, vitamins and allergens may thus be abbreviated.

The endocrins are called the "chemical regulators." Their deficiency or excess in the system cause specific disturbances.

Some believe "anti-body," protein of special molecular formation with some active radical attached.

Immunity, or the ability of generating sufficient anti-bodies to desensitize or rather hydrolize or oxidize the antigen of disease is probably dependent upon these chemical regulators or hormones.

The inability to equalize the electrolytic solution pressure or the osmotic solution pressure, that is, anaphylaxis, results in allergy; and the antigen of hormone balance becomes the allergen of hormone imbalance. Hormones are secreted in the endocrins and distributed as needed or attracted through membranes into the blood and lympth streams.

All of the primitive, or purely physical functions, which were all that existed in the lower order of development prior to the formation of the central nervous system, are thus regulated by the endocrins.

It may be mentioned here in justification of opotherapy or substitution therapy, that the hormone of one animal usually has similar dynamic action to that in another even of different species. Thyroid in white mice and white rats is the exception which proves what is one man's meat is another man's poison.

Most hormones are crystalline bodies; some are lipoids; some are heat stable or withstand boiling; some are not hydrolized (apparently) by the digestive juices. The pharmacodynamic activity has been detected in the hormone of adrenal medulla in a dilution equal to one part to 3,000,000,000.

The posterior pituitary hormone is even more potent.

One milligram of the thyroid hormone is estimated as able to increase, by two per cent, the oxidation of the resting adult human body. Three and one-half grains equals the years supply with which health and normality exist. Without which allergy and death occur. What has been said of one hormone applies in general to all.

They act as catalysts, that is they excite the electro-chemical changes of metabolism from the building of the first cell to the destruction of the last.

Thyroxine, or the iodothyroid endocrin, acts sometimes as an oxidizing agent when an hydrogen acceptor and sometimes as an oxidizing agent when an oxygen donan.

That is, it may increase the oxygen in the molecule attracted by taking away its hydrogen and thus increasing its relative oxygen or it may give up its own oxygen. As previously mentioned this variation in action is dependent upon the acid or alkalin reaction of the medium of activity.

Glutathion, also, may act as a hydrogen acceptor or donor. Its presence is said by chemotaxis to prevent the "internal" or cell asphyxia caused by arsenic; i. e. glutathione causes oxygenation to continue inspite of the "anti-oxidizing" effect of arsenic.

Thus another phase of immunity due to electro-chemic activity may be seen.

Epinephrine acts, probably, in just the opposite way to the thyroid hormone, as an oxidation catalyst.

It is now possible to build many hormones synthetically.

The interrelations of endocrins is made manifest by deficiencies of development in the new-born where thyroid, pituitary or suprarenal dysfunction is evident.

Not only is the species maintained by endocrins but all evolution has been proven to be effected through endocrins, which in turn may depend upon vitamin assimilation.

Vitamins are now accepted as vegetable hormones.

In some instances, as the suprarenal cortex and in vitamin C, the chemical composition of the hormone and the vitamin have been found to be similar. In this instance both are hexuronic acid.

It has been stated that hormones have been synthetically formed; therefore it is easy to see that vitamins are synthesized in the system into endocrins of corresponding chemical formation. It is believed this synthesis takes place in each specific endocrine gland.

It is probable that neither the crystalline endocrin nor vitamin is energized until combined with the phospholipin-cholesterol of the plasma. It has been found without phosphorus there was failure of nutrition. Hence the combination of the two.

Perhaps the key to the electro-chemical activity of vitamins, and of hormones may

be seen through the various relations of vitamin D, or the "sunshine vitamin," which corresponds to the ultra-violet ray effect; which in turn is known to be due to its accelerating oxidative changes brought out entirely upon electro-active molecules.

Calcium phosphate furnishes the electrolytic media; this in turn is controlled through its metabolic changes by the parathyroid hormone.

Thus it appears the electro-chemical exchanges of the ultra-violet wave, vitamin D and the parathyroid are closely related if not identical.

In all probability the future will divide into classes those effects which are concerned with all interrelations; such as the ultra-violet (and other electrical vibrations); the pituitary, the thyroid and the suprarenal endocrins and their vitamin congeners and into another class those that have a specific action, as insulin, sex-hormone, etc.

It has been said that the future development of the species depends upon the endocrins.

It is well known that equinus primus or the first horse was small and without hoofs. His evolution can probably be traced to the vitamin replenishment of existent hormones; and as the early algae gave place to more and more vitaminous herbage, inactive endocrins began to secrete additional hormones and thus the evolution of the modern horse.

To continue the analogy, in the poorly fed, or those that lack vitamin D in food, or those that are unsunned, or housed-up like the baby, deficiency in parathyroid endocrins develops the allergical syndrome of rickets, with the disturbed calcium metabolism.

There is no present usage, which embraces every physical symptom of dysendocrinosis or abnormality.

Pathology has been suggested, instead of allergy.

Undoubtedly there is a conceivable state of endocrin activity that would confer immunity against all pathology. Likewise there must be some general term like "disease" applied where immunity is inadequate.

Allergy is growing into that place and is probably so used in this paper; if improperly used time will tell.

Returning to the baby with rachitis, we find the allegeric symptoms are due to the parathyroid deficiency which was brought about by either the relative absence of vitamin D from the diet; or from the inactivation of the ultra-violet vibration upon the electrolytic substance.

Opotherapy, parathyroid endocrins, vitamin D replacement or ultra-violet exposures together with calcium, balance the unsatisfied molecular valence and health results.

All the successful medicaments in rachitis duplicate these actions and effects.

Metabolism is simply electric chemistry, catabolism and anabolism are but electrolysis and electric replating. Old age is but the final loss of electro-motive-force due to the gradual neutralization of the ion bearing elements of the economy.

The ultimate end, at any age, is cellular death due to the Spark of Life; or the electric current of function having ceased. It may be electrolytic non conductivity; or it may be, as in the old, an isoelectric point or neutralization of the ion equilibrium.

The hypothesis desired to be set forth is that all of Life, and therefore health, is based upon electro-chemical or ion exchanges, usually called oxidation and reduction, which forces reside in the endocrins. Endocrins are maintained in the system by the synthesis of vitamins.

Vitamins are vegetable hormones, often chemically identical with the purified animal hormones or endocrins. Their physiologic and pharmacodynamic actions are often identical.

The system possessed of a perfect hormone balance is adequate to the oxidation and reduction of all substances which may pass into that system no matter by whatsoever route.

Therefore no pathology, disease or allergy will occur in physiologic endocrinosis or where hormone balance is maintained.

Disturbed endocrine relations, either excess, or deficiency results in allergic reactions. Therefore allergens are antigens whose electro-chemical valence remains unneutralized, or unoxidized and unreduced in the system.

Allergens probably do not exist except relatively; They exist only where a substance is taken into a system which is possessed of endocrin, or hormone imbalance, and is incapable of oxidizing and reducing such substances. That is, allergens are incompletely oxidized substances in a subject of dysendocrinosis or where imperfect electro-chemical exchanges take place.

In other words what is one man's meat is another man's poison, because of dysendocrinosis.

Hay fever, urticaria, angioneurotic oedema, asthma, gout; bacterial allergies, anaphylaxis or serum sickness, arthritis, etc., are the disorders most frequently classed as allergies.

Diabetes mellitus, perhaps, furnishes the most complete parallel or illustration for this hypothesis; as every step is well known.

Saccharine food, which is easily oxidized into life sustaining forces where there is a hormone balance, excites, in the subject of dysendocrine island of Langerhan's function, all the symptoms of diabetes mellitus.

These symptoms will entirely disappear when the endocrin balance is again restored by the artificial restoration of these deficient insulin hormones or oxidizers.

Vitamins corresponding to insulin are found in onions (glycokinin), in potatoes, rice, wheat, beet-root and celery. Active extracts have been made from yeast, oranges, grapefruit, lemons, dried beans and oat bran. (Harrow and Sherwin.)

Before vitamins were identified I remember a diabetic detail man, who observed that the first water used in making bean soup, the so-called pot liquor, would often clear his urine of sugar, needless to say I possessed no explanation, as beans being nitrogenous were on my list of "must not take" in diabetes. He evidently experienced this insulin effect.

"Bacteria grown on insulin-free media are said to yield a potent substance, like insulin." (Harrow and Sherwin.)

These observations make the analogy complete. Saccharines ingested by a subject of hormone balance are life giving.

Saccharines ingested by a subject of dysendocrinosis expressed by a deficiency in the endocrin or hormone insulin, becomes an allergen, and excites the syndrome known as diabetes mellitus. Which syndrome in turn disappears with the establishment of the endocrin balance by the exhibition of insulin.

Endocrin and vitamin investigation continue to verify the truth that hormones must be synthesized from vegetable vitamins or else artificially supplied.

A most convincing illustration of the relativity of endocrins and vitamins may be observed in the so-called plant hormones described by Kogl and quoted extensively by Harrow and Sherwin.

Auxin is a crystalizable growth promoting hormones, found in the tips of oats and corn; in fungi; yeast; bacillus coli and other sources and has a formula C_{18} H_{32} O_5, and that of its lactone is C_{18} H_{30} O_4. (Harrow and Sherwin.)

Its growth promoting effect is identical with that of Robertson's tethelin, which is one of the first known hormones of the anterior-pituitary secretion. Robertson classed tethelin as a lipoid, it contained both nitrogen and phosphorus, which suggest the amino separation could be carried farther, perhaps to a crystalizable state.

The pituitary growth promoting hormone is believed to be secreted by the acidophylic cells of the anterior-portion. The basophilic cells secrete the sex stimulating hormone of the anterior pituitary body and its effect is identical with the sex, or female hormone in plants, known as tokokin and found in the kernels of the palm tree.

Tokokin corresponds exactly with theelin or the animal follicular hormone.

The growth pituitary hormone has not yet been formulated.

The absence of these endocrins and vitamins permits their respective deficiency syndromes of dwarfism and sterility in their various degrees of allergy, which are both psychic and physical.

A detailed comparison of course is far beyond the time limit of this paper and tables of comparison are still too ponderous for emphasis here, so the mere facts will be called to notice.

First of all it must be mentioned there are two types of endocrin function and two types of allergy; over activity of the endocrins (hyper-endocrinosis) and over activity of the vitamins (hyper-vitaminosis) and there is deficiency or absence of activity in the endocrins and vitamins, hypo-endocrinosis and hypo-vitaminosis.

There are allergies of endocrin deficiency like diabetes, Addison's disease, vaccinia, etc., and there are allergies of over endocrine activity like hyperthyroidism, acromegalia, urticaria, etc.

The reticulo-endothelial system requires much study in connection with allergy, as the possible source of antibodies.

Anti-body is of course but a synonym for equalizing or reducing electro-chemical agents like antitoxins, agglutinins and precipitins.

Even cancer, with its own lymph and blood channels, into which it constantly discharges its internal and allergic secretion is a chief among allergens.

The reticulo-endothelial system with its cytolic potentialities may even explain cancer cell metastasis. Cell rests have proven a myth. Cell irritation is the only constant factor in cancer. The scavanger phagocytes are always the electro-chemic bombs of the fighting system.

If incapable of reducing the circulating irritant, what more natural than cytologic division and growth partaking of the cellular characteristics of the tissue in which development occurs? The metastacised cell will remain of the parent type.

It becomes an endocrine source of uncontrolled and constantly discharging allergens, which by their overwhelming ionic saturation utterly exhaust hormone electro-chemic valence.

Anionic colloids of gold and other metals are known to be beneficial in retarding cancer cell growth.

In polyneuritis, beri-beri, pellagra, rickets

and other allergies it is known hypovitaminosis, or deficiency of vitamins, cause the conditions.

In beri-beri we know that the vitamin B deficiency causes the lack of synthesis of vitamins into anterior-pituitary, and thyroid hormones.

We likewise observe polyneuritis, beri-beri in particular, is relieved by administration of vitamin B; also that polyneuritis is relieved by the administration of the equally anti neuritic anterior-pituitary endocrin, by thyroxine, and by glutathion to some extent. The growth hormone of the anterior-pituitary is believed the hormone of action in this case.

Here we see the allergy developed from the Vitamin B deficiency which was required for synthesis into endocrins which normally are antineuritic, or neuro-tonic.

Likewise is the explanation of scurvy, of pellagra or rickets and many other equally well understood allergies or "pathergies" which ever you choose.

I have observed such allergic manifestations as urticaria are more frequently seen in the subjects of dysthyroidism.

In hyperthyroidism, the apparently overtaxed non protein-nitrogen metabolism does not admit of any alloxyl increase to the burden of nitrogen elimination.

In the beer-fed, or vitamin B excess consumers, the same state may be observed.

Endless analogies must be dismissed with the simple statement, that it is believed: Endocrins by their functions maintain life and health and are the panacea for allergy or disease.

Vitamins by synthesis replenish or furnish the hormones of the endocrine glands and are therefore essential to health and their absence permits allergy.

Allergens are the factors that excite disease or allergy because of imcomplete oxidation and reduction or unsatisfied electro-chemical valence; which can only occur in dysendocrinosis or a state of endocrin imbalance, which may be either inherited, or acquired from dys-vitaminosis or disturbed vitamin assimilation.

All allergies curable, are curable by the restoration of the hormone or endocrin balance through either artificial supply or vitamin synthesis.

Therefore vitamins are electro-chemical regulators or vegetable hormones, which are synthesized by the special glands of animals into animal hormones, or endocrins; the systemic imbalance or dysendocrinosis of which, permits food or other allergies to occur because of the irritating metabolites that result from the unsatisfied electro-chemical valence of the allergen. The allergen is any substance that may remain unneutralized in the system.

DISCUSSION

E. R. Palmer, Louisville: It is needless to say that it would be impossible to add anything to this highly scientific and erudite paper. I am only sorry that Dr. Bate did not have a chance to read the whole thing, and I am sure that you all will appreciate it when you see it published in the Journal.

A point which appealed to me particularly was the statement, which I have often made myself, that the normal human being is capable of curing himself of every curable disease. Some fifteen years ago in writing a paper on syphilis I made the statement at that time that I believed with the failure of Ehrlich's theory of therapia sterilizans magna the era of chemotherapy had reached its peak and that we were now due for a study not so much of chemicals with which to cure, but that we should devote our time more to biologicals and to the study of how nature itself attempts to cure these diseases.

I think Dr. Bate has brought it out wonderfully. I do not know exactly, and I do not think any of us know, what this auto-protective mechanism is. We have the anti-bodies which are probably circulating in the blood; they are more or less controlled and regulated and possibly formed by the combined action of the endocrin system, and when we have a failure, when we say we get an infection, we have then an antigen and a response with an antibody, but when we fail to get that response, as for instance in late gummatous syphilis or in chronic tuberculosis, we apparently do not get it. We then have the development of an allergic condition.

A. M. Leigh, Louisville: When I read the title of Dr. Bate's paper I decided that I would add a new word to our symbolic list of NRA, CWA, etc. and it is EVAR, Endocrine, Vitamine and Allergen Relativity. As I understand Dr. Bate's paper, the endocrines are the regulators of our metabolism, the vitamines build up and synthesize the endocrines, and in case of a dysfunction of this relationship it results in allergy, or in the broad sense, disease. Now he takes the stand that Dr. Palmer has always taken, that the body is capable of curing any curable disease. I ran across a little piece from the Baltimore Sun several days ago which conveys perfectly the thought that Dr. Bate and Dr. Palmer have expressed:

"No great invention or new ray,
No discovery by Roentgen or Curie,
Ever help the physician
Attain his ambition
Like the Vis Medicatrix Naturae."

R. A. Bate, (in closing): I think by a simple illustration, with which you are more or less

familiar, I can make the three points perfectly plain. For instance, in a green leaf, carbon dioxide and water (H_2O) are taken in through the chloroplasts; where the chlorophyl comes in contact with them. The ultra-violet rays of the sun come down upon the leaf and cause the formation of formaldehyde. Here we have the processes of life itself. The energy from the sun becomes potential energy in the plant. Thus is the beginning of our first protoplasm or first live molecules. The formaldehyde which is formed from the carbon dioxide and the water is a secretion, and the chloroplasts represent the endocrine cells. The chlorophyl represents the endocrin itself. The ultra-violet is present as in the other life conditions. Thus forms formaldehyde. The next step must have a slight degree of alkalinity, in which the formaldehyde is converted into the hexoses; the hexoses then are converted into starch, and the starch into the protoplasm by endocrine like processes. If we do not have this alkalinity, if for some reason an acidity persists, then the formaldehyde is not converted into the hexoses. This change into starch, protoplasm and life does occur, but instead formaldehyde acts as the allergen, kills the leaf, kills the plant, spots it or causes death. I believe in this illustration we have the whole process of activity of vitamines, of hormone and of allergen. The energy of the sun, transformed in this way into the starch or protoplasm, and we have life its self, with incalculable potentiality, all due to ionic or electro-chemical exchanges.

Icterus Simplex: Von Haberer points out that simple icterus, ordinarily treated with success by the internist, may assume a severe form with acute or subacute liver atrophy. Such cases suggest an obstructive lesion by a tumor or a gallstone and are accompanied by symptoms of severe cholangeitis. In this type of cases, biliary drainage in its simplest form, by cholechystostomy brings about a cure. The author suggests that this treatment be combined with a continuous intravenous drop infusion of dextrose and insulin and some dehydrocholic acid. In the severest forms of this condition, one finds white bile in otherwise normal and patent extrahepatic biliary tracts. Even patients operated on in a state of coma may still be saved if secretion of bile sets in after the operation. Of the seventeen patients operated on by the author, sixteen have recovered. One patient had a genuine recurrence of the sickness but recovered with medical treatment. The operative method is suggested for severe cases in which, in spite of the medical treatment, failure of the liver to function is imminent. The operative results thus far have been encouraging.

THE WEARING OF GLASSES AS IT RELATES TO MEDICINE*

ADOLPH O. PFINGST, M. D.

Louisville.

It was with considerable trepidation that I accepted the invitation to address the general session of our State Society, realizing as I do the difficulty of presenting something for discussion that would meet with your commendation. Experience has taught me that the Ophthalmologist is wont to delve too deeply into subjects of interest to the oculist and thus defeat the purpose of the presentation. Let me assure you at the outset today that I have no intention of inflicting upon you a technical treatise but that I am presenting some thoughts of a purely practical nature in the hope of eliciting a discussion and of serving a purpose in the community. I am sure that I am offering nothing new when I tell you that the use of magnifying glasses to improve vision dates back to a very early era.

There is every evidence among the relics of the early Egyptians that the art of glass blowing was practiced by them in the manufacture of urns, jars, beads and other trinkets as early as 1400 B. C. However nothing has been found in the early records to indicate that glass was employed as an aid to vision. It is rather suggestive that the ancient classics, among them the Papyrus of Ebers, compiled 1500 B. C. which devotes considerable space to the care and treatment of the eyes, are devoid of any reference to the use of glasses. Although it is perhaps fair to assume that the magnifying power of segments of glass was recognized by the ancients, its adaptation to optical purposes was unlikely owing to the color, air spaces, opacities of foreign chemicals and other imperfections contained in the glass of that time.

A definite historical reference appears in the writings of Confucius, 500 B. C., that the Chinese were wearing glasses during his lifetime though not as an aid to vision but rather for religious and ornamental purposes and as an emblem of caste.

The first authentic history of the visual usefulness of glasses is of much later date and is accredited to a Franciscan Friar, Roger Bacon, who lived from 1214 to 1294 A. D. He applied his knowledge of refraction and reflection obtained from the writings of the earlier Greeks and Arabs to a practical purpose. In his publication "Opus Majus" he produced drawings of biconvex lenses to illustrate that such lenses provide magnification of objects viewed through them. Bacon

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employed single lenses as hand glasses held close to the object to be examined and evidently made no suggestion regarding the use of lenses supported in front of the eyes in frames.

Credit for this thought is given a French physician, Bernard Gordon, who, near about the year 1300 A. D., published an article in "Lillium Medicinae" in which he advocated the use of segments of glass to be worn in frames. Lenses in the early Christian era were also made of transparent stone such as rock crystal, topaz, emerald and beryl. Because beryl, a semi-precious stone of extreme hardness, was largely used for the purpose Gordon called these early glasses "berylli," from which the present German term "brille" and the French "berille" were adopted.

There is evidence that the Chinese were also using spectacles for their ocular properties at the turn of the 13th century, but whether they were of original invention or an adoption of Gordon's ideas has never been established. The portrait of a priest painted in 1352 which hangs in the church of Treviso, in which the ecclesiastic is decorated with mounted lenses is evidence of the early adoption of Gordon's idea.

The employment of glasses was evidently quite limited for many years following their initial appearance. The real incentive for their use did not arise until after the advent of printing, which occurred about the middle of the 15th century and which marked a rapidly increasing demand for spectacles.

It was customary in those days for the individual to select his glasses in a haphazard way from a small assortment on sale by the merchant and the itinerant glass peddler. However the merchandising of spectacles was soon appropriated by individuals who adopted the fitting of glasses as a trade or profession. This marks the birth of the optician and the spectacle makers guild in England in 1563. By the middle of the 16th century opticians were found in most towns of Europe.

Much was accomplished by this new industry in removing the imperfections from the glass, introducing more advanced means of grinding lenses and by improving the frames as regards appearance, comfort and efficiency. Whereas up to this time spectacles were intended exclusively for presbyopes, opticians made the observation that at times the distant vision of far sighted subjects could also be improved with convex glasses and began to furnish glasses for this purpose. Coincidently the concave glass for the near sighted individual to improve distant vision also came into use. With the increase in educational facilities a corresponding demand for glasses developed.

The greatest demand for optical help still came from the individual who on account of increasing age was losing the ability to see close objects clearly. May I recall that throughout life the biconvex crystalline lens of the eye serves the important purpose of concentrating images to a focus on the retina. The closer the object approaches the eye the greater the refractive power which the lens must assume in order to bring about clear vision. This ability of the lens to adapt itself to such changes in its refractive power resides primarily in its inherent elasticity. It is controlled by an action of the ciliary muscles known as the power of accommodation. The lens elasticity lessens with increasing age and when it reaches the stage where the near point has receded beyond the distance at which ordinary print can be read with comfort (about fourteen inches) the use of magnifying glasses or "old age glasses" becomes imperative. In normal eyes this condition, known as presbyopia, becomes manifest near or about the age of forty-five. It is then that we seek stronger light for reading, that we hold reading matter at longer range to make it legible, that women can no longer thread needles readily, bookkeepers post wrong figures and physicians find difficulty in removing splinters and recognizing foreign bodies in the cornea. In hypermetropes this condition becomes manifest earlier and in myopes later than in emetropes.

Inasmuch as glasses employed by presbyopes for reading and other close work bring about a blur of distant objects, the necessity for their frequent removal becomes manifest. This contingency of having to remove reading glasses or of having to change from reading to distance glasses causes no little inconvenience, especially to those engaged in clerical pursuits, and thus the incentive for glasses to serve both purposes was created.

It will interest you to know that this emergency was met when the inventive genius of that versatile American Statesman, Benjamin Franklin, gave to the world the idea of the present bifocal glasses. No doubt you are all familiar with the picture of Franklin wearing his eight cornered oblong spectacles. He placed in the frames two half glasses in contact at the horizontal line, the lower piece to serve the purpose of reading, the upper of seeing far objects. The principle of these original "split glasses," designed by Franklin in 1784, was sound, however in their practical application they caused considerable confusion, especially in walking about. The transition from the or-

iginal crude type to the modern bifocal of today was marked by many changes. The first was to reduce the size of the reading piece and make it circular, thus gaining in perspective through the larger upper piece. This marked a step forward but did not do away with the "jump" in vision at the line of contact. Before many years it was succeeded by a bifocal made by employing a full lens to which was cemented a very thin circular scale of glass to furnish the magnifying power for reading. This form of bifocal which has been in use since 1866 offered a vast improvement in lessening the jump at the margin of the reading segment, however objections soon became manifest in the formation of cracks, air spaces and opacities in the cement and this led to the introduction, in 1890, of the invisible bifocal or "kryptoc" obtained by fusing flint and crown glass. Still more recently the one piece bifocal or "ultex" was invented, thus making the reading segment practically imperceptible and enabling the wearer to shift from distant to near vision with little or no inconvenience.

The introduction of the curved or periscopic lens to replace the flat one, thus placing the reading segment of bifocals at an angle which would enable the individual to look through it at right angles to its plane, marks another noteworthy forward step in optics. The reading segments are now being ground in various shapes in an endeavor to serve the individual's taste and to conform to the nature of his employment.

As bifocals are adapted to but two distances we are still confronted, in those individuals whose occupation or habits demand clear and useful vision at an intermediate range, with a problem which sometimes becomes quite trying and in fact impossible of perfect solution. Glasses so ground as to enable the wearer to see at three different ranges (trifocals) have been tried but have not proven satisfactory.

Until the latter part of the 18th century spectacles were used almost exclusively for the improvement of vision. However in 1801 the English scientist, Sir Thomas Young, demonstrated that the refractive power of the eye is not the same in every meridian. This difference in the refractive index of the opposite meridians of the eye is termed astigmatism, a term with which you are all familiar. It was not long after this contribution that the first lenses to neutralize this refractive error were ground in Ipswich, England, in 1827, and it was demonstrated that by wearing cylindrical lenses in cases of astigmatism, even though in many instances they brought about little or no perceptible improvement in visual acuity, reflex symptoms could frequently be relieved.

Somehow, quite a period followed this important contribution to optical science before cylindrical lenses were prescribed with any frequency. This may perhaps be accounted for in that astigmatism was difficult of diagnosis, that the condition was not well understood and its significance minimized.

However the knowledge of astigmatism and the introduction of correcting lenses finally led to a new era in optics. By the middle of the last century the selection of glasses by chance was largely abandoned and the refraction of the eyes was determined according to definitely established optical principles aided by the use of retinoscopy, ophthalmoscopy and other scientific methods. These examinations were largely taken over by the oculist, the graduate in medicine equipped for the work by special training in physiological optics and the study of the anomalies and diseases of the eye, who by the use of cycloplegic measures ("drops") to suspend the accommodation is able to determine accurately errors of refractions which might otherwise be overlooked.

The broadening effect of glasses from their mere optical action to a wide therapeutic influence is becoming more and more obvious as the physician encounters cases of headache, insomnia and various nervous phenomena which resist all treatment and ultimately find relief in the use of glasses. Whereas there is no doubt that spherical errors of refraction, hypermetropia and myopia, are frequent causes of reflex symptoms and that correcting lenses are of inestimable value in such cases, we have learned that an ocular examination is incomplete without a search for other possible sources of discomfort. It is a common observation that low degrees of astigmatism and astigmatism with off axes may be the source of very annoying symptoms.

It is also not uncommon to find disturbance in the co-ordinating function of the eyes the auxiliary or sole cause of distressing symptoms of nervous tension. As many cases of muscle imbalance are now amenable to treatment by attention to the general condition of the patient, by means of systematic muscle exercises or by the addition of prisms to the patient's correcting glasses, an ocular examination can not be considered complete that has not included a careful study of the function of the ocular muscles.

It is a frequent experience for oculists to find patients whose symptom complex might at first impulse suggest the need of glasses, in whom a careful examination would un-

cover systemic or ocular conditions of a much more serious nature. We find especially in recent years that the study of the visual fields have been of inestimable value in diagnosis. In patients with perfect central vision, with perfect muscle balance and often without intraocular changes, visual field measurements may reveal defects indicative of intracranial disease and other affections of the nervous system.

You are familiar with the value of the ophthalmoscope in determining diseases of the optic nerve and retina and other intraocular affections in which the coincident defect in function might have suggested the use of glasses.

A class of cases apparently in need of optical help is that in which the symptom complex is of a purely psychic nature. It is not altogether unusual to find individuals in whom pronounced symptoms prevailed in the absence of manifest refractive errors or muscle defects to account for them. Patients of this kind have frequently been relieved by the wearing of plane glasses.

Thus it will be seen that the study of the relation between the eyes and the general condition of the patient has become one of major proportions that can no longer be accomplished by a mere imperative examination.

Yet we find a tendency among the internists to make the mistake of being satisfied with the patient's statement that his eyes have been examined and that he is wearing glasses without taking the trouble to ascertain how, where and by whom they were examined. To illustrate the lack of understanding regarding the importance of a proper ocular examination, I would cite the not uncommon experience of the oculist to have people consult him about their eyes and to make the naive request that no examination be made for glasses as "this had just been done."

The public is misled by newspaper ads and radio talks which create a misapprehension as to the real significance of the eye. As the relation between the eyes and the general condition of the individual can manifestly only be determined by those versed in the methods of physical examination, who have devoted special study to the technique of ocular examination, it is obvious that the welfare of the potential wearer of glasses is best conserved under the care of the oculist.

Should a general physical examination and ocular study reveal normal conditions and the case resolves itself essentially into one in which the employment of glasses is indicated it is the custom among oculists to furnish the optician with a prescription for the correcting lenses. We find now in all large centers competent optical firms prepared to cooperate with the specialist relative to the grinding and centering of the lenses and the mechanical adjustment of the frames.

Undoubtedly there are many prescribing opticians who by study and experience have gained considerable dexterity in fitting glasses and who are able to serve the uncomplicated cases needing glasses.

However there is another class of glass fitters, which represents those with little or no preliminary schooling and little acquired knowledge, who are incapable of examining eyes and are a menace to public welfare. Such are found in great numbers in every community and many are found invading the rural districts. Efforts to bring the optical business out of its present chaotic state through legislation are now being made, in fact laws governing the requirements and circumscribing the activities of the glass fitter have largely been enacted in many states including Kentucky.

Much has been written regarding the harmful influence of improper glasses. While I can subscribe to the view that annoying and at times distressing symptoms may occur as a result of improper refraction, it has not been my experience that ocular disease is a common result of wearing incorrect glasses.

To my mind much greater significance must be attached to the cases in which an incipient ocular affection already prevailed but was overlooked at the times glasses were dispensed. It is not an uncommon experience for those engaged in the practice of ophthalmology to encounter cases of this kind.

Deluded in the belief that they had found in spectacles a balm for their troubles, such patients allow their vision to leave them, often so insidiously and imperceptibly that by the time the realization comes over them that they are facing blindness they may be and frequently are beyond the hope of therapeutic or surgical treatment. Obviously misfortunes of this kind can not be attributed to the wearing of incorrect glasses but solely to false confidence and consequent delay in seeking medical council.

My chief object in bringing this matter before you is to make a plea that more of our members interest themselves in optics. To me it seems incumbent upon the medical profession to make every endeavor to bring about improved conditions. There should be at least one physician in every community of any size who is versed in the technique of refraction and who is familiar with the use of the retinoscope and the ophthalmoscope, and is thus not only able to take care of the

optical requirements of the simple cases but who is able to differentiate between cases in need of glasses and those who on account of ocular or constitutional affections require the service of the oculist. Quite a number of physicians in Kentucky are now doing work of this kind and are doing it well, however the number is inadequate to the needs of our people, hence I would not only suggest but would strongly urge that more of you take up this work. It is my hope that before long courses in refraction will be included in the curriculum of the department of ophthalmology of our medical schools. Physicians who are doing refraction work should have the encouragement and support of their medical confreres.

A discussion of the use of spectacles would not be complete without a word regarding the varieties of frames employed. In the course of years styles of spectacle frames and the material employed in their construction have undergone frequent changes. There has been a gradual transition from the earliest frames, the glasses incased in heavy frames joined by a rigid bar or bow and held in place by means of cords or leather fastened around the ears or about the head, to the modern graceful nose glass, the so-called pince-nez. During this transition the frames with temples to support them on the face, which in contradistinction to the nose glass are known as spectacles, have also been introduced. In the early period of glasses it was the vogue to wear elaborate eye glasses with ornamented bridges. Fashions in frames change just as they do in clothes and we find the modern optical house equipped with frames of all shapes and mountings of various materials to suit the taste of the individual. We find brunettes selecting dark frames and blondes the frames of gold and silver; large persons accepting large frames with heavy rims and the petite girl favoring small lenses with no rims or very light ones.

Thus by catering to the taste of the individual the prejudice against glasses, which had existed for many years, has largely been overcome. The fallacious idea that glasses detract from one's appearance no longer exists, in fact it is realized that glasses frequently improve one's appearance, adding a touch of dignity and distinction.

The tradition that glasses are incompatible with certain occupations and professions also no longer prevails, and the wearing of glasses is not limited to students and to those occupied in clerical work for we see mechanics, laborers, motormen, railroad employees, policemen, in fact people of all occupations and all classes wearing them. You know of course that quite a few professional ball players wear glasses while at play to improve vision and that, those assigned to the sun fields practically all wear tinted glasses. In various pursuits such as work at the emery wheel and the lathe, plane glasses are worn as guards against injuries, and tinted glasses are employed by those engaged in glass blowing, moulding, and are welding. Workmen adopt the use of glasses with considerable reluctance, perhaps on account of the tendency of the glass to sweat or to become clouded by the frequent impact of foreign substance and also on account of their inconvenience.

You may have noticed in recent advertisements of optical houses that non-shatterable glass is now being employed in spectacles as a protection of the eyes against fragments of glass in case of accident.

An important function of glasses is that of protection against excessive light. The earliest type of such protective devices have long been in use by the Eskimos to protect their eyes from the light of the snow. They consisted of opaque plaques with very narrow horizontal slits or pin point holes held before the eyes in a leather band. Such devices have gradually been supplanted by spectacles containing tinted lenses. The so-called "smoked glasses" which have been in use for some time do keep out the ultra violet rays and thus overcome the ill effects of excessive light, however the neutral gray of such lenses also cuts out visible rays, hence the "smoked" glass is being replaced by tinted lenses of varying composition and trade names which eliminate the ultra violet rays without interfering with the visual acuteness.

And now before closing I would say just a word about the monocle, that round glass squeezed into the orbit of one eye, but it is only to assure you that I can conceive of no indication for the use of a unilateral glass for optical purposes. It purely is only a fad or an affectation. The monocle is a curiosity in this country, though as you know it is employed with such frequency in some of the European countries that it no longer causes comment.

DISCUSSION

R. W. Bledsoe: I have been a student of the eye for thirty-five years, and today have learned of several historical facts which were unknown to me as previously. Therefore it gives me great pleasure to take advantage of this opportunity to congratulate Dr. Pfingst for his effort and to assure him of our profound appreciation.

In referring to presbyopia, the essayist includes the physician with more or less impaired close vision having difficulty in removing for-

eign bodies from the cornea, or splinters, etc., from the skin. Gentlemen, it is a frequent experience to see a cornea unnecessarily superficially lacerated by the point of a knife in the hands of one who knows that he needs stronger glasses and still attempts to remove foreign bodies from the cornea without the aid of a Berger loop.

Many of us, possibly most of us here, have had personal experience with bifocal lenses, and willingly testify that we could not dispense with them. My personal experience with trifocals has not been satisfactory, although in some cases of strictly desk work they may be of great assistance.

I can vouch for the headaches due to astigmatism as referred to in the paper. I went through school suffering frequent violent headaches. In those days children's eyes were examined for glasses in only rare instances. During the latter part of my first year in medical college, our Professor of Ophthalmology lectured on astigmatism. Every word he said fitted my case. The next morning I appeared at his office and have worn glasses since.

I want to emphasize the statement by the essayist that ocular disease is not the result of wearing incorrect lenses, but that the disease was in its incipiency or was not recognized by the one who applied the glasses. Most any doctor who practices ophthalmology can cite you many instances of hopeless vision in one or both eyes due to unrecognized advanced glaucoma, where the optician had changed glasses several times at unreasonably frequent intervals, and referred the patient to an oculist only after the damage had been done.

Again I agree with the essayist in the belief that eye examinations should be made by the physician, as the eye is only a very small part of a highly organized body. I am not selfish enough even to think of insisting upon taking refraction away from the optician at present. But I do predict that in the years to come such a change will gradually take place. I remember one of the last barber shops in my city where in addition to a haircut and shave, teeth were extracted and leeches were kept for application when needed.

My personal opinion is that gradually more doctors will become interested in eye work and do more of the refracting, and that the optician's time will be fully occupied by just as honorable a profession, if not more so, and that he will grind lenses only on prescription, and fit the frames to the patient. It will take years for this change to take place, naturally, and nobody's feelings will be hurt, and all parties, the patient, the physician and the optician will find their positions much improved over what they are today.

R. B. Maw: I was very sorry that Dr. Pfingst did not get a chance to finish reading his paper. He has given us a very splendid history of glasses from the beginning, the unknown, to the point where it has become one of the most important scientific fields in the practice of medicine.

He has not only suggested but has urged more of the medical men to take up the field of optics. He feels that the medical men are letting this particular field slip by and that inferior men are taking possession of it. He has come here today chiefly for the purpose of urging more of us to take up this particular field, and suggests that every community have at least one medical man who refracts eyes and does it in a scientific manner.

I think that if we as doctors would listen to the plea that he has made to us today, we would find that this part of our medicine would stay with us, and if we don't do so, it is going to be taken away from us.

A. L. Bass: I would like to bring out a few points that Dr. Pfingst did not get to. Refraction is the scientific part of our work. Out of 4,800 examinations of school children Fuchs found only 4 per cent of them with emmetropic, normal eyes, and on up to an age of twelve about 7 per cent were normal. For that reason alone it behooves all of us to have our eyes refracted.

The hyperopic eye is the one that gives the trouble. The myopic eye is generally relaxed and doesn't give us any trouble. The hyperopic eye is never at rest during waking hours. There is always a constant drain on the eye, which predisposes to an early sclerosis of the lens and drain on the filtering mechanism of the eye, which predisposes to either cataract or glaucoma.

Arthur T. McCormack: Several years ago we assisted the optometrists in getting through their law, after having fought with it for a long time. That is under the control of the State Department of Health. We have found the Board of Examiners in Optometry thoroughly cooperative with the profession. They want to make a profession out of their group. They realize that most of them now that are at work are tradesmen, and they are trying their very level best to bring about the evolution into real adjuncts to the profession.

Of course the transition is bound to be gradual. There are many defects in their organization. There are only about one or two of their graduates in optometry examined each year, and most of them fail in it unless they have taken the courses at the three recognized schools that now require a four-year course, just like they do in medicine; they require study in anatomy, physiology, pathology, and the basic sciences, just as in medicine, and they are really becoming qualified. That means, of course, that their

field is very narrow for the amount of work they have to put into it, and really the thing they will do, as has been suggested by one or two of the speakers (and I know Dr. Pfingst feels the same way) is that they will gradually develop so they will all graduate in medicine and the whole thing will coalesce, as Dr. Bledsoe suggested, at some time in the future. I believe the whole plan is working out as ideally as it can.

The difficulty at present, which makes many of you feel irritated, is the failure of some of the old tradesmen who are licensed under the exemption clause, and it is very hard indeed to bring ethics into the trade. This NRA code business is going to help some in bringing about that evolution generally over the country, but we have a long way to go yet and we will need the sympathetic help of everybody.

The Board of Examiners in Optometry are trying their very level best to bring about just the thing that I know the whole profession desires to bring about.

Adolph O. Pfingst: (in closing) There are many things I would like to say if time would permit. What the optometrists are trying to do is to elevate their standards and this is very commendable for it will help rid the community of the incompetents and the charlatans. We must recognize the fact that there will always be a sharp line of distinction between the optometrist whose activities, even though standards have been elevated, must be limited to the fitting of glasses and the oculist who has spent six or seven years of study to equip him for the practice of ophthalmology. Without the ophthalmoscope to recognize retinal and optic nerve diseases; without visual field measurements to recognize incipient cerebral and spinal conditions; without the ability to recognize muscle imbalance and paralysis and without means of determining intraocular tension one could be of little service in recognizing ocular disease or studying ocular signs of constitutional conditions.

As has been said we should have, in the larger communities, at least one if not more graduates in medicine interested and competent in optics to determine at least whether an individual needs glasses or not, and in the event he does not need them to be able to determine whether or not he is in need of physical attention.

I would repeat that little harm is done by furnishing wrong glasses. I may be mistaken in this, but I do not recall having seen serious harm done an eye in this way. However the wearing of incorrect glasses does cause symptoms. You can bring about a great deal of distress by prescribing improper glasses. The harm lies in not recognizing incipient conditions that are there at the time the eyes are examined. We often see cases examined by incompetent glass fitters in which the patients deluded in the belief that their eyes had been given every necessary attention when they got glasses come to the oculist later resenting an ocular disease or ocular changes indicative of constitutional disease which if recognized earlier might have been amenable to treatment thus preventing blindness or even saving the life of the individual. These are the important points which I would re-impress.

RUPTURED ECTOPIC PREGNANCY*

W. O. Johnson, M. D., F. A. C. S.
Louisville.

Ectopic pregnancy is a fairly common gynecological disorder, occurring once in 275 cases of pregnancy. It is of great interest to the general practitioner and internist, because they are the first to meet with this baffling diagnostic problem.

Even under most favorable circumstances the diagnosis of ectopic pregnancy is difficult. The diagnosis is seldom made before the rupture of the pregnancy. In cases, however, after the rupture of the ectopic pregnancy the diagnosis may be more easily made. But even when a ruptured ectopic pregnancy is present the symptoms and findings so frequently simulate other abdominal lesions, that the diagnosis is still extremely difficult.

In ectopic pregnancy before or after the rupture of the pregnancy, no one sign is of sufficient importance to cinch the diagnosis.

In order that we may review these interesting cases, we shall present sixty selected cases of ruptured ectopic pregnancy, which have been cared for in the Gynecological Department of the Louisville City Hospital between the years of 1926 and 1934.

Recognizing that pelvic haemorrhage may be due to conditions other than ectopic pregnancy, only those cases with operative and pathological records are considered in this series, so for various reasons (in this series) eleven of the original cases were discarded.

I wish to stress one point only in the etiology of ectopic pregnancy, namely their association with or occurrence subsequent to abortions. Abortions have in the past few years been on the increase, and with the usual infections that follow and the resulting pelvic changes, can we not expect to see an increase in ectopic pregnancy? And so we do!

In order to make a more comprehensive study, these cases may be divided clinically into three groups:

(1) Obscure cases of long standing rupture, in which encapsulation of the products

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of conception and the resulting haemorrhage have taken place. (8 cases, 13.3%).

(2) Cases with rupture of a few days or weeks, where internal bleeding has ceased, and immediate treatment is not imperative. (12 cases, 20%).

(3) Cases of acute rupture with signs of alarming internal haemorrhage, in which prompt and speedy operation is necessary to control the haemorrhage, with pulse rates 110 or over. Duration of pain not over three weeks; 15 per cent or more associated with weakness or fainting. (40 cases, 66.6%).

With such a classification, let us review these sixty selected cases of ruptured ectopic pregnancy.

One outstanding fact is noticeable, that in the urban districts, ectopic pregnancy is showing a relative increase. The question arises: whether this is the result of the recent economic stress, associated with the increase in abortions and the more widely spread use of chemical contraceptives, or perhaps other etiological conditions may be responsible.

If we consider the age incidences, we find that the great majority of the cases in Group I, are found in the fourth decade, with all of the cases multipara. Can we surmise that the multiparity of this group with the resulting pelvic changes are the etiological factors in these cases? This is accepted by some.

In Group II the majority of the cases are in the third and fourth decades, and in Group III they are predominately in the second and third decades.

It is interesting to note that in the third group, ten cases had an ectopic pregnancy as the first pregnancy, and eight cases had been married less than two years and ectopic pregnancy was the first pregnancy. Does this not bespeak a previous, probably "Specific" pelvic infection which resulted in tubal changes that predispose to ectopic pregnancy?

Ninety per cent of all of the cases were between the third and fourth decades; 66 per cent were multipara; 10 cases were either single or had been divorced.

A point of interest is to contrast the admission temperature in the three groups. In the first two groups the temperatures ranged from 98 degrees to 100 degrees, but in the third group, of the more acute cases, eighteen, or 45 per cent had sub-normal temperatures upon admission. Does this not denote the greater degree of severity in this group of cases?

The chief complaint in 75 per cent, of the first two groups was abdominal pain. In the third group it was present in 85 per cent of the cases. The pain was dull in character in the greater majority of instances. When the pain was sharp and stabbing in character, such pains were quite often associated with fainting or weakness. The pain in suspected cases should be given careful scrutiny as to type, character and radiation, especially when such radiating pains are referred to the shoulders or rectum, and are associated with weakness or fainting.

Pain is the one constant symptom. It is always present, however uncertain or indefinite the other symptoms may be. In the early cases the pain is usually cramp-like and irregular in occurrence. In the cases where rupture is impending or has occurred it is sharp in charcter, severe in degree and often radiates to the back or thighs. The presence of rectal pain or tenesmus usually means a rupture of the ectopic pregnancy and the pain is the result of peritoneal irritation by the blood in the cul-de-sac. Shoulder cramps or pain associated with ectopic pregnancy are usually indicative of sub-diaphragmatic peritoneal irritation, caused by blood in the abdominal cavity and are present in about 10 per cent of cases.

Ectopic pregnancy should be suspected when a woman in the child-bearing age presents menstrual disturbances of short duration, and pelvic pain of recent origin.

Vaginal Bleeding: as the chief complaint, was present in about 15 per cent of the cases. As a symptom vaginal bleeding was present in over 70 per cent of the last two groups. The average duration of bleeding was about two weeks. In 41 per cent of Group II and 32 per cent of Group III there was no vaginal bleeding before operation. This is significant, for some believe that vaginal bleeding is an important diagnostic sign. May we interpret that vaginal bleeding occurs when the corpus luteum undergoes degenerative changes. If this is true, we then have, in over one-third of the acute cases, corpora lutei that are still actively functioning

The period of amenorrhea varies greatly in the three groups. In the first group the duration of amenorrhea was an average of five months and four days; in the second group two months and fourteen days and in the third group one month and eighteen days. Is not the period of amenorrhea greatly influenced by the point of implantation of the pregnancy and its susceptibility of rupture? From an analysis of the location of the pregnancies the percentage sites in so far as they could be determined were about the same in each group and agreed relatively to usual per cent of points of implantation. One may, however, surmise that with the presence of five abdominal pregnancies and

in the cases of prolonged periods of amenorrhea, the ampullary implantation predominated.

In the acute cases there were a number of cases in which the tubes were so completely destroyed by the rupture that the initial site of the implantation of the pregnancy was undetermined. Such a group with the early rupture and acuteness of symptoms certainly suggested isthmal implantation. In this group no cornual or ovarian pregnancies could be authentically recorded.

With pathological changes sufficient to produce ectopic pregnancy one would think menstrual disorders should be present. In this series by far the greater majority of the cases had regular periods up to the onset of the pregnancy, 81 per cent with an average of four days duration. Those with irregular periods had been so throughout most of their menstrual life.

Nausea and Vomiting: occur in over 40 per cent of all the cases, and found in a higher percentage, and more persistent in the acute cases.

Weakness and Fainting: occur in about one-third of the cases and proportionately increase with the acuteness of the symptoms and severity of the hemorrhage.

Shoulder Pains, Pain on Defecation and Dyspnoea, and Breast Changes: are usually found only in the more acute cases and range from 7 to 15 per cent of these cases. When present they are very helpful diagnostic symptoms.

Some Rather Constant Findings of Note: The softening of the cervix which was present in about 50 per cent of Groups I and II, and in 81 per cent of Group III. Softening of the cervix is the result of the congestion associated with the pregnancy. Sensitivity of the cervix to motion is due to the peritoneal irritation from the blood gravitating from the ends of the tubes or ruptured walls of the tubes to the cul-de-sac, which affects the utero-sacral ligaments, and motions of these ligaments result in pain. Enlargement of the uterus and general abdominal tenderness were present in over 50 per cent of all of the groups. As we know, this enlargement is due to the presence of the decidua which has been prepared for the reception of the fertilized ova. Usually Chadwick's sign and softening of the anterior wall of the uterus are not present.

Unilateral pulsation of the uterine artery is frequently found, and is an additional finding of significance. It is more easily felt in these cases because the uterus is displaced downward and thereby made more accessible to the examining finger. The sudden excessive demand for unilateral blood supply increases the activity of the uterine artery on that side.

In the more acute cases, (Groups II and III) abdominal tympany or distention of slight or moderate degree is a finding present in more than 60 per cent of cases. The association of abdominal tympany or distention, rapid pulse, sub-normal temperature, high leucocyte count, I believe is of great significance in the diagnosis of ectopic pregnancy, a group of findings not often mentioned.

It is interesting to note that the pregnancies in these cases were about equally divided between the two sides and also between the white and colored races, there being only five more white cases than colored in the group.

There were five abdominal pregnancies, and abdominal pregnancies were present in all groups. May we not infer that these were ampullary implantations that had been extruded from end of the tubes and had continued to develop in the abdominal cavity?

Sixty-six per cent of the cases were multipara averaging 3.1 child to the case, with 24 recorded miscarriages in the series. Ten of these cases, however, had never been pregnant before the ectopic pregnancy, two cases had been pregnant less than one year and six cases had been pregnant less than two years.

It has long been the belief that one of the probable causes of ectopic pregnancy is infertility, or that ectopic pregnancy usually follows a prolonged period of infertility. Such a belief is not borne out in this series. The average duration of time from the previous gestation, (as well as could be ascertained) to the ectopic pregnancy was 4.4 years. There were three cases, however, in which there had been 18, 16 and 10 years of apparent sterility.

Only five of these cases had a previous record of operative procedures, but as far as could be ascertained, twenty-four cases had had abortions preceding their ectopic gestation. With the apparent increase in abortions and the associated pelvic infections and changes, may we then surmise that an increase in ectopic pregnancy may be expected.

It is interesting to compare the pre-operative diagnosis in this series with the post-operative findings. We see that a great discrepancy exists. In the first group only the abdominal pregnancies, (or 12% of the cases) were diagnosed correctly. In the second group we find the pre-operative diagnosis and the post-operative findings agreeing in 33.3% and in the third and more acute cases the diagnosis was correct in 70% of the cases.

A comparison of the laboratory findings of the first two groups shows no striking

differences in the blood picture, blood pressure, or admission pulse. In Group III, however, the more acute cases show a drop of 600,000 red blood cells, 2.5% in haemoglobin and a definite decrease in blood pressure, with a rise of over 1500 white blood cells, associated with an increase in percentage of polymorphonuclears, and a rise of an average of 42 points in heart rate in comparison to Groups I and II.

The hemoglobin readings in these cases are not as low as the pallor of the individual would indicate. Jaundice was present in two cases, and subsided rapidly after removal of free blood from the abdominal cavity.

A short period of amenorrhea with subnormal temperature, tympanic or distended, tender abdomen, with softened and enlarged cervix and uterus, and high leucocyte count is also very suggestive of ectopic pregnancy.

Tests: The Ascheim-Zondek Test may be confirmatory in these cases, but it is not a constant aid, for it remains positive only as long as the foetal cells secrete hormones into the maternal blood, and twelve hours is the shortest period of time required to obtain an accurate reading. Many of the severe cases are unable to live that long.

A positive, delayed, direct Van den Bergh reaction is of help in that it indicates the presence of free blood in the abdominal cavity. It is a simple test and is easily carried out and is an excellent aid in such cases.

Sedimentation Tests, in these cases, remain prolonged within the normal ranges in contrast to being shortened as in the acute inflammations.

The urinary findings in the great majority of cases are normal; in only a few cases was albumen present.

The number of positive Wasserman Tests corresponded to the average number found in the City Hospital in the general run of patients.

So from this study we may again say that there is no one pathognomonic sign for ectopic pregnancy, but ectopic pregnancy presents a variable clinical picture, often atypical, and sometimes closely simulating other abdominal conditions. Ectopic pregnancy should be suspected when a woman in the child-bearing age presents pain of recent origin, menstrual disorders of short duration, associated with a short period of amenorrhea, tympanic or distended, tender abdomen, softened and enlarged cervix and uterus, with sub-normal temperature and high leucocyte count and pulse.

Treatment: Ectopic pregnancy calls for surgical intervention as soon as the diagnosis is made. Unfortunately, the diagnosis is rarely made before the rupture of the pregnancy. In acute cases after rupture the problem is to save the patient from exsanguination.

In the acute cases of this series, fifty-seven percent necessitated some form of blood transfusion. Where possible and advisable, auto-haemo-infusions were done, (13 cases), and are to be recommended as an excellent life saving procedure in acute need of blood and in the absence of pelvic inflammation. Where auto-haemo-infusion was not possible, and severe anaemias were present transfusions of whole blood were done.

With the presence of blood in the abdominal cavity it behooves us to do only that surgery indicated at the time as a life saving measure, and prevent excessive traumata and possible peritonitis which may follow excessive surgery.

Operations Other Than Removal of Ruptured Tube

38.3% had appendectomy,
28.0% had bilateral salpingectomy,
35.0% had unilateral oophorectomy (most of ovary damaged beyond restoration.)
.6% had hysterectomy, (1 for early carcinoma uterus) (1 for fibroid of uterus.)

Thirty percent of the cases were in the hospital over twenty-one days; one case as result of peritonitis and complications had 73 hospital days.

Treatment then consists of conservative surgery as soon as the diagnosis is made, transfusions either of patient's own blood (Leohenberger method) or whole blood at the time of operation, when indicated, to be followed by the usual post-operative care, which treatment will miraculously transform a desperately ill patient to one with a relatively smooth convalescence in a short period of time.

Results: There were two deaths in the series, both in cases of abdominal pregnancy —one from shock and the second from peritonitis—with a mortality of 3.3%. In the acute and most severe cases in Group III there was no mortality.

Post-operative follow up of these cases for an average of 1½ visits shows that all of the cases but two had had a return of regular menstrual periods without symptoms and only 13.3% complained of post-operative vaginal discharge, and only two cases presented complaint of pelvic pains.

Nothing is so dramatic as the recovery of these cases.

DISCUSSION

John H. Blackburn, Bowling Green: When I think of the history of ectopic pregnancy as given to us thirty-five years ago, as one of the

outstanding features of the history of the case at that time was the period of sterility; there was also stressed a period of amenorrhea. It occurs to me that there are real reasons why we should be having an increase in ectopic pregnancy in these days of financial and other forms of stress.

I feel the history of any case must be given careful consideration, because most of us, as a rule, are meeting these cases in one of two general classes, either the chronic, according to Dr. Johnson's classification Group 1 and 2, or that exceedingly emergent peritoneal insult of a ruptured ectopic. I think after we have seen one of those, unquestionably we will all have our attention focused on the fact that abdominal pain is a prominent feature in those acute cases that, with the air hunger and the increasing pulse, indicate a serious condition within the abdomen.

Dr. Johnson's paper was sent to me in manuscript, and I find it a very helpful sort of thing at this time in stressing the point that when we meet one of these cases we are meeting a condition that it is not always easily diagnosed.

As to the period of sterility, I have observed a case at home operated on first by my assistant. The woman was married at the age of eighteen, and very frankly admitted through the history that she was anxious for children. At nineteen she had ruptured ectopic pregnancy with the removal of the right tube. Within a year and a month she had an acute suppurative appendix that necessitated its removal, and the following January, within two years of the first pregnancy and the first operation, she had a ruptured ectopic pregnancy on the left side that left her without any hope of bearing children. There was no history of infection in that case at all.

As I said at first, I think in these times of stress unquestionably infection is a factor, and yet if we think of the difference, in the two races, the white and the colored, naturally we would feel that in the colored race the Neisserian infection was more frequent, and yet we know that as a rule in a Neisserian infection the tubes are more apt to be obliterated or obstructed to the point that a future pregnancy will not occur. Evidently there is someihing else than the Neisserian infection. I am just wondering if Dr. Johnson can help us in telling anything about the number of abortions in the colored race compared with the white race. I think that unquestionably abortion with infection would be more apt later to predispose to an ectopic pregnancy than Neisserian infection on account of the fact that the Neisserian is more apt to obstruct completely the tube.

I am wondering, too, if Dr. Johnson might in about five years help us in the Kentucky State Medical Society in determining whether a convention of the Veterans of Foreign Wars might have an influence on the incidence of tubal pregnancy.

Arthur T. McCormack: The first report that I made to this Society was a report of seven cases of ectopic gestation. That was made thirty-seven years ago. It was the first series of cases reported in the literature in the United States. Shortly after, two of my friends in New York reported more than 100 cases each, but I am particularly interested in the progress that has been made in the diagnosis of this condition. From my experience at that time I would say that Drs. Johnson and Blackburn are correct in their conclusions, but I am greatly impressed with the improved methods of diagnosis.

W. O. Johnson: (in closing) The relationship of increase in abortions to the relative increase in ectopic pregnancy presents a very interesting problem. We have about as many white women with ectopic pregnancies as colored, but I feel that we have a great number of abortions in the colored race which we have no way of determining. Also, there is a larger percentage of venereal diseases in colored women than in white, and under such conditions ectopic pregnancy should be greater. The one outstanding factor is that we have no diagnostic criteria or pathognomonic finding for ectopic pregnancy, and one must at all times be on the alert for such conditions whenever the patient is in the childbearing age.

ANNUAL ORATION

PULMONARY EMPHYSEMA A SEQUELAE OF PULMONARY TUBERCULOSIS*

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It is the purpose of this paper to emphasize the clinical importance of pulmonary emphysema when caring for cases of quiescent or arrested pulmonary tuberculosis.

Pulmonary emphysema is a severe complication of sequela of bronchitis, asthma, bronchiectasis, pneumonoconiosis and exposure to gas. But that is another paper. It is of interest that Laennec knew that sewer gas caused pulmonary emphysema, as we have found it after war gassing.

I will not take time to discuss the various theories of the etiology, nor discuss the pathology and various forms of pulmonary emphysema except to quote from William Fox and refer you to the writings of Laennec, Sir William Jenner and Rakitansley. Laennec says that the word "emphysema" comes from the Greek "to blow up or distend with air." That is just what happens in practically all cases of pulmonary tuberculosis. The lung tissue not infiltrated with tuber-

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cle is blown up or distended with air; not all at once, but gradually. First in one part and then in another, as was stated by Fox before 1888. This is easily confirmed by consulting X-ray films of tuberculous patients taken at intervals over many years. Fox says:

"Acute tuberculization is very commonly attended with acute vesicular emphysema, which may be either general or local. In the former case there is probably inspiratory over-distention; in the latter the emphysema arises from the same cause, and possibly also from partial obstruction of the bronchi due to the growth of tubercle in their sheaths.

Chronic phthisis is attended with local emphysema at the apex, due to loss of elasticity of the lung tissue at this part, which renders it liable to yield to cough. This loss of elasticity is also in part due to inspiratory over-distention, resulting from the contraction of the consolidated lung. Emphysema occurs also at the bases from the effect of cough and of inspiratory over-distention combined, acting on a lung which is the subject of frequent congestion. Increasing dysponea and asthmatic paroxysms are not infrequently witnessed in patients in whom tubercular disease appears to be arrested or cured. In later life the subjects of cured tuberculosis frequently suffer from the atrophic form of emphysema. Their lungs, which are naturally small, appear to be specially liable to this form of degeneration, in the course of which, moreover, secondary ulceration of the indurations of older date tend to occur without the intervention of any recent tubercular formation, but giving rise to excavations which constitute one form of senile phthisis. Acute phthisis may, on the other hand, be attended with emphysema complementary to pneumonic consolidation."

In emphysema the air-cells distend with air and not only blow up, but often blow out. The elasticity is lost but whether the elasticity is lost before they blow up or because of the blow, i. e., forced expiration, is yet a disputed point.

Regardless of the cause, emphysema is a constant sequela of pulmonary tuberculosis. This is in contrast to pathological findings as reported from general hospitals, but they consider only the macroscopic not the microscopic findings. I have sectioned many lungs and have never failed to find it on some of the microscopic sections of every case of pulmonary tuberculosis.

This subject was brought to our attention forcibly at the Sanatorium (Hamilton County Tuberculosis Sanatorium, near Cincinnati, Ohio) before the World War. Many cases were returned because apparently they had become reactivated. They had fever, rapid pulse, severe cough, much expectoration, shortness of breath and often the appetite had failed and they had lost weight rapidly. Physical examination showed rales over the greater part of the lung, especially the bases. Generally they were so exhausted that a prolonged physical examination could not be endured. Much to our surprise the x-ray showed no new lesions and later repeated sputum examinations were negative for acid fast bacilli. Three weeks of care and bed-rest made a great difference in their clinical picture. It was usually longer before the rales, bronchi and asthmatic wheeze disappeared, but it was evident that the tuberculous lesions had not broken down but that the pulmonary circulation was not able to carry the strain to which it had been subjected. Other cases were slower to recover. They usually returned in the winter, and it was found that they were suffering from bronchitis. A lung weakened by emphysema frequently develops bronchitis or broncho-pneumonia or both secondary to winter colds. Thus it was gradually forced upon us that when we discharged patients as arrested or quiescent, or when they signed out against advice, that they must be instructed not only in the usual hospital care but in addition must be warned to see a doctor for slight colds and that their rest hours must be more frequent and even better kept when at home than when in a sanatorium. By colds I mean infections of the upper and lower air passages. An institution relieves patients of much stress of adjustment to home and friends. This is in addition to the increased work and play which most patients attempt when close supervision is relaxed.

In other words, the physician who has carried a case of pulmonary tuberculosis to the stage of arrest, has not completed his obligation to his patient, unless he has carefully observed that patient to determine as far as possible the extent of the emphysema and the hours he may be out of bed probably with safety. Such a report should be sent to his next physician with emphasis upon the necessity of additional rest and care at the very beginning of every winter cold. Above all an indelible impression should be made upon the patient that he needs a physician and must see him at regular intervals. Our colleagues who received such patients could help much if they would carefully examine the returned patient and prescribe more rest and less drugs. I fully understand that such care will complicate greatly all efforts to rehabilitate the arrested case, and in answer can only say that rehabilitation will fail unless these important facts are considered and the

dangers carefully guarded against. Please remember that every recurring attack of bronchitis and every failure of the pulmonary circulation greatly weakens the good lung; more cells blow up and blow out, and finally you have a human derelict even if the tuberculous lesions have remained inactive.

If the diagnosis of emphysema is not made until the classical symptoms of cyanosis, the barrel-shaped chest or kyphosis turtle-neck have developed, the patient will not need our help except for relief; so we must realize that only a few years of over-exertion may convert a useful citizen into a hopeless cripple. Moreover, by regulating that patient's hours of work, or better his hours out of bed, we can not only prevent the catastrophe, but can add greatly to the patient's happiness, comfort and productive work.

We all have such patients, because all arrested cases of pulmonary tuberculosis have emphysema. Try to determine its extent and teach the patient to come to you at stated intervals. If one complains of being tired or nervous, or irritable or of indigestion, be on your guard, he may be over-doing. Early he will not complain of shortness of breath and his breathing will not be shallow and rapid as he sits quietly in your office chair. This is usually because he has laid off the greater part of the day to consult you. Even if you have him hop or subject him to some other light effort syndrome he may not show these symptoms. This is because mild or moderate emphysema is a fatigue condition. It does not manifest itself after severe exercise for a short time, but even mental work over long hours will bring on a noticeable strain. Examine these patients at the end of their day's work, and the degree of exhaustion and handicap will be much more evident. Then your patient after exercise will have short, shallow breathing, a rapid pulse and the nervous strain will show. If cyanosis develops you have a severe case which requires prolonged bed rest.

For practical purposes it is necessary to consider two forms of emphysema: A—usually classed as vesicular and B—compensatory. Interstitial emphysema, which is sometimes associated with cutaneous emphysema, is so different clinically that it should be considered in another paper.

The physical findings of vesicular and compensatory emphysema are so unlike that they must be dealt with separately. The former is a breakdown which may spread, and the latter is an overstrain which may break down, unless we are sufficiently foresighted to prevent these developments. Collapse therapy, such as pneumothorax, will always produce compensatory emphysema, and as I have said, one of the forms of emphysema always follows pulmonary tuberculosis.

Let us consider Physical Signs. Vesicular emphysema.

Inspection. Little is to be seen in the early or even moderate cases, except that there is limited expansion of the ribs. The patient is generally well nourished. The chest may be deep, but not barrel-shaped, sometimes even flat. Litton's sign is best seen in emphysema but the diaphragm movement can be determined best by percussion.

Palpatation shows the ribs to move up and down rather than out.

Percussion: The diaphragm dullness between forced inspiration and forced expiration will be limited and quite low. A young, healthy individual will move the diaphragm dullness in the axillary line six fingers or more while emphysematous patients will show limitation according to the extent of that condition. This is true when only one upper lobe is involved. The rhomboid dullness found below and outside the trapesius dullness extending from the scapula to the spine, is either lost or much lighter than average. At times the trapesius dullness is lost, but this is in severe cases. The peri-spinal dullness will be high and Koenig's isthmus will be wide unless affected by the tuberculosis lesions.

The pericardial dullness is most interesting. If there are periodical adhesions the dullness will be wider than normal or lost. Therefore, given definite signs of emphysema and normal or wider than normal pericardial dullness we can definitely diagnose pericardial adhesion even when the interspaces do not retract during systolae.

By percussion and palpation we may find that the liver is quite low, but do not conclude that the right heart is dilated and the liver enlarged. It is probably only pushed down by a low diaphragm.

Auscultation: If there is no oedema, bronchitis or asthma the breath sounds may be almost normal. But generally inspiration is prolonged and the breath sounds roughened as in peurile breathing. When examined after a day's work and a little exercise such as hopping, ordinary breathing will be shallow and inspiration much longer than expiration; just the reverse of the normal. On forced inspiration and forced expiration, especially with cough, the patient quickly tires and often an asthematic wheeze will develop although the patient had had no symptoms of asthma.

The X-ray findings: The fluoroscope is a valuable aid. By it you can determine the general lack of lung density, the restricted

movement of the diaphragm, the lack of compression (darkness) of the lung bases on forced expiration, (in the healthy chest the bases should lose their transparency on deep expiration) and the anterior and posterior dark areas shown by the lateral view. If there are no pericardial adhesions to the anterior chest wall, the heart will be separated from the sternum; if there are adhesions the posterior dark area (behind the heart) will be larger than average. For the reading of stereoscopic films and injection of iodized oil I will refer you to: "Pulmonary Emphysema Associated With Arrested Pulmonary Tuberculosis," by Kennon Dunham, M. D., reprinted from *Radiology,* September, 1933.

One great step which must be taken in the study of emphysema before fully satisfactory reports can be sent to other physicians for the care of such patients, is the development of a classification of cases such as mild, moderate and severe. It is hoped that a comparative study of vital capacity, X-ray and clinical symptoms and history, will meet this need.

Physical signs of compensatory emphysema are entirely different until the elastic fibers have given away and then it is no longer compensatory. Here the diaphragm moves freely. Lytton's sign is seen at its best and the ribs expand more than in the average. This is especially noticeable when the opposite side is contracted. The diaphragm dullness may exceed eight fingerbreaths, the rhomboid and trapesius dullness are easily mapped out, by percussion and may be palpable. The anterior lung border may extend to the opposite side of the sternum. Inspiration is harsh and expiration prolonged but the normal rhythm is not reversed as in vesicular emphysema. The X-ray findings are also in great contrast. The diaphragm moves freely and far. The base is dark on forced expiration. The anterior and posterior dark areas are often obscured by trouble on the opposite side. The lung markings on the films are widely separated as in vesicular emphysema, but they close up on expiration, as they do in vesicular emphysema.

Treatment: Necessarily the lost pulmonary elasticity cannot be restored so our problem is conservation of the good lung by preventing overstrain, the further loss of elasticity and by preserving the pulmonary circulation. Therefore the primary treatment is rest, as I said before, the careful control of the number of hours the patient is up. Emphysema is a fatigue phenomenon and when the elastic tissue fibers tire they more easily break, that is the air cells more easily blow up and blow out. Therefore the crime is to get tired. This can only be prevented by carefully studying each patient and systematically controlling his daily routine. Such patients must be taught that there is no rest but in bed with the clothes off, and without company with whom to talk.

Some patients, as the asthmatic, should not be up until the attack is relieved. Others may be up a few hours but few of the moderately advanced cases should have more than eight hours up, followed by two or three hours bed rest. You will find that many cases do their best work on five or six hours out of bed (including bath, bowels and food) two hours rest and then five or six more hours up. It is surprising what hard work some can do safely if they do not exceed their time up. Let me repeat—emphysema is a fatigue phenomenon. If patients are not made tired by the long pull, they can pull quite heavy loads for a few hours. All strain must be avoided, especially coughs, straining at stool and vomiting. For such cases I prescribe codein early as long as necessary, watch the bowels most carefully and so far as possible avoid indigestion. The nervous symptoms due to exhaustion should be met by rest rather than sedatives. Sedatives to quiet the nerves only help them to go beyond their strength.

These patients may be permitted to be up more hours in the summer than in the winter. They require more rest in the winter because they are subject to winter colds, which frequently produce bronchitis and sometimes broncho-pneumonia. The less tired they are the less easily they take cold. Asthma and hayfever require special mention because they as frequently affect the tuberculous as others, and may do great damage to the elastic tissues. Asthma requires complete bed-rest during the attack and every effort made to relieve symptoms. If a specific cause can be found such as orris root, relief is prompt, and therefore a specific cause or causes should be searched for. Most cases of asthma in the tuberculous are due to the emphysema, and nothing but complete bed rest will restore quiet breathing. During the attacks codein is a great help. Also, hay-fever in the tuberculous, like colds, must receive unusual care. Every effort should be made to desensitize before the attack, but if the attack comes on the patient should be sent to a salubrious climate as quickly as means and transportation will permit.

Many patients suffering with emphysema are diagnosed in our offices and considered in their homes, hypochondriacs. They present a most pitiable spectacle, unable to carry on and no one to show them and their families what is wrong nor to tell them what to

do. Some of these cases have unrecognized tuberculosis. They should have our most careful consideration. Attention to pulmonary emphysema will prevent many tuberculous patients from breaking down, will prevent many cases of asthma and will restore and make happy many a so called neurasthenic.

HEMOLYTIC ICTERUS, FAMILIAL TYPE*

MARGARET LIMPER, M. D.

Louisville.

Hemolytic icterus or Ictero-anemia of the congenital or familial type is a comparatively rare condition, thought to be due primarily to an increased fragility of erythrocytes, and characterized by anemia, acholuric icterus, splenomegaly, and increased destruction of red blood cells. The latter is partially compensated for by an increased production of young red cells, so that the reticulocyte count is increased, and normoblasts may reach quite a high percentage.

The symptoms may be present at birth, or the condition may remain latent for many years or even throughout life. When icterus has appeared, however, it usually never entirely disappears. Hemolytic crises may occur, in which anemia and icterus become more marked, and abdominal pain and digestive disturbances are apt to be complained of by the patient.

The treatment of this disease consists of splenectomy, if the symptoms are sufficiently severe to warrant such procedure.

The case here reported is particularly interesting in that it is likely that the patient inherited the hemolytic tendency from both parents. The available data were insufficient to prove this definitely.

The patient, a male white child aged 9 years, was admitted to the Louisville City Hospital on January 22, 1934, complaining of headache, nausea, and vomiting. His illness had begun one week before admission to the hospital with headache and general weakness, followed shortly afterwards by nausea and vomiting. He went to school but was sent home because he looked pale. He was then kept in bed for a week. He continued to vomit at intervals, usually after meals. The day before admission to the hospital the vomitus was said to have been brownish in color. He was constipated during the week before admission, and had an attack of epistaxis three days before entry.

The past history of the patient was interesting. He is the oldest of five children, and was a full-term infant delivered spontaneously. On the third day of life, he developed an intense jaundice, which persisted for six weeks, but finally disappeared without treatment. His development was delayed in all respects. At the age of nine years, he is in the second grade at school. (A psychometric examination done while the patient was in the hospital revealed an I. Q. of .78). He had pertussis at two months, and chickenpox at 8 years. At the age of 5, he began having dull pains in the epigastrium following meals; and this complaint had been present intermittently ever since. He had always been a nervous child, according to his family, and two years ago was diagnosed chorea in another hospital in this city. The house officer at that time found a firm, enlarged spleen: no blood count was done. The patient's tonsils were removed during the hospital stay.

The family history revealed the fact that the mother had been told two years ago that she had an enlarged spleen. At that time, she was in the hospital because of pyelitis and pelvic inflammatory disease. Recently she had been sent home from the factory where she is employed, because of slight jaundice. Her maternal grandmother (the patient's great-grandmother) is said to have had an enlarged spleen all of her life, and has much pain in her left side. The patient's maternal grandmother is diabetic. Examination by us of the available members of the family revealed an enlarged spleen in the patient's father and youngest brother. The latter, aged 4 years, is subject to attacks of abdominal pain. The mother and father are both of slight stature, and have pale, "sallow" complexions. The siblings appear healthy; one child is dead of pneumonia. The fragility of the erythrocytes was found to be definitely increased in the father, mother, and the three living siblings. The sister showed a mild anemia. Reticulocytes were not increased in any of the other members of the family. The fragility test of the maternal grandmother was normal; she was not examined for splenomegaly.

On admission to the hospital, the patient's temperature was 101.4° F.; pulse 126; and respirations 32. Physical examination revealed a poorly developed and poorly nourished boy obviously ill. The skin was pale, and there was a barely perceptible icteric tinge. The sclerae were also slightly icteric. The teeth were dirty and carious. The tonsils were absent. Examination of the heart revealed a systolic thrill at the apex, and a soft systolic murmur heard all over the precordium, but loudest in the third left interspace. The spleen was palpable three fingerbreadths below the costal mar-

*Read before the Jefferson County Medical Society.

gin, and was hard, smooth, and not tender. The testicles were undescended bilaterally. On admission, there was a suggestive Babinski bilaterally, but this finding was not confirmed by later examinations.

The laboratory findings were as follows: Red blood count 2,570,000; Hemoglobin (Sahli) 40 per cent; white blood count 13,450; polymorphonuclears 71 per cent; lymphocytes 28 per cent; eosinophiles 1 per cent. There was marked achromia and polychromatophilia; the erythrocytes were below average in size. The blood platelet count on admission was 510,000; and three days later, 450,000. Bleeding and coagulation time were normal.

The fragility test showed hemolysis beginning in .56 per cent saline, and complete at .42 per cent; the control beginning at .42 and complete at .34 per cent. Routine examination of the urine was negative; a trace of urobilin was present. The iterus index on January 23rd was 60; on the 25th, 37; and on the 26th, 12. The Van den Bergh on the 26th was present. The icterus index on January reactions were negative. X-rays of the chest and long bones were negative. An electrocardiogram showed small, slurred QRS complexes in all three leads.

The patient had a low-grade fever during the first week in the hospital. He vomited at intervals during the first three days, and continued to be constipated. He was given intravenous glucose on one occasion. Apparently the patient's acute illness represented a hemolytic crisis. On the third hospital day, his red blood count had dropped to 1,550,000, and at that time, there were many normoblasts present, and his reticulocyte count was 37.2 per cent. On that day, he was given a transfusion of 300 cc of citrated blood. During the second week in the hospital, he was afebrile, and felt well enough to be ambulatory.

A diagnosis of hemolytic icterus having been established, the patient was prepared for operation. Another transfusion of 400 cc of citrated blood was given on February 4th; and on February 5, a splenectomy was done, together with a biopsy of the liver, and a routine appendectomy. The spleen was estimated to be five or six times the normal size, and was tightly secured to the diaphragm. At the posterior leaf of the pedicle, there were four or five small pieces of accessory spleen; these were also removed. The liver was slightly enlarged but appeared normal.

The patient's convalescence was uneventful. Two days after operation, his fragility test was the same as pre-operatively. His red blood count was 3,360,000, and his hemoglobin 78 per cent. The reticulocyte count was 0.5 per cent. Two months after operation, his condition was markedly improved clinically; his appetite was good, he was very active, and he had gained weight. At that time, his red blood count was 4,920,000; and hemoglobin, 80 per cent. There were no reticulocytes present. A fragility test showed hemolysis beginning at .48 per cent, and complete at .28 per cent. Persistence of increased fragility following splenectomy is the rule in this disease.

On examination of the spleen removed at operation, the weight was found to be 225 grams. The gross and microscopic pathological changes were those usually observed in this disease. I have asked Dr. Miller to discuss the findings. No pathology was found in the liver.

The case reported represented one of congenital hemolytic icterus successfully treated by splenectomy. The operation was performed somewhat sooner after a hemolytic crisis than is ordinarily recommended, but apparently this did not affect the patient's convalescence. The family history is interesting. The maternal grandmother showed no increased fragility, and unaffected members of families in which the disease occurs are said not to transmit the hemolytic tendency; however, the history suggests that this may be true in the case described. It is certain that the hemolytic tendency was present in the patient's father.

I wish to thank Dr. Clarence Bird, who operated upon this patient, for permission to present the case.

DISCUSSION

Clarence E. Bird: The operator in a case of this kind really deserves very little credit. Babies presenting diseases of the blood-forming organs and of the spleen, liver and bone-marrow nearly always enter the hospital on one of the medical services and it is there that they are so ably studied, as in Dr. Limper's case. Ordinarily the surgeon sees these patients after such studies have been completed and his part consists simply in carrying out the proper operative technique. Nevertheless, the surgeon is or should be, particularly interested in the pathology of the diseases and the clinical findings.

No one surgeon can see a great many of these cases during his lifetime and he must, therefore, rely largely upon studies which have been carried out in the larger clinics. Splenectomy for familial haemolytic jaundice carries a mortality of not more than five or six per-cent, including those who are very sick. In cases like the one presented, who are in good condition, the mortality is something like one percent or less.

The requirements, so far as the surgeon is

concerned, are, first, to perform a bloodless splenectomy with as little damage as possible to other tissues, second, to remove all accessory spleens, third, to examine the liver and take a biopsy in order that any associated pathological condition of this organ may be discovered, fourth, to examine the gall bladder for the stones which are present in about sixty percent of the cases, and, fifth, to remove the appendix. Then, too, if possible, a piece of bone marrow should be taken for the pathological examination, but of course that is not always possible.

TREATMENT OF DIARRHOEA IN INFANCY*

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From an etiological standpoint we divide the diarrhoeas of infancy into two groups; 1—those due to indigestion and, 2—those due to inflammation of the intestinal wall or colitis. Indigestion may result from; 1. Eating improper food. 2. Summer heat. 3. Parenteral infection i. e. infection outside the intestinal tract, such as otitis media, pyelitis, etc. Some times one, some times two, some times all three of these factors are involved. Inflammation of the intestinal wall or colitis is almost always due to dysentery bacillus. Amoebic dysentery in infancy in this part of the country is a medical curiosity.

Clinically we differentiate the indigestive diarrhoeas from colitis by the fact that indigestion diarrhoeas rarely show blood or pus or much mucus in the stools while colitis or dysentery usually show all these things. Also the fever of indigestion diarrhoea rarely lasts longer than 5 or 6 days unless associated with parenteral infection while the fever of colitis may last 2 weeks or more. Also tenesmus and straining are unusual in indigestion and common in colitis.

The treatment of the two types of diarrhoea is almost the same except that we feed more freely in colitis. Treatment may be considered under two headings:

1. Treatment of Diarrhoea.
2. Treatment of dehydration and acid base balance.

1. Treatment of Diarrhoea

Cathartic: In the first 24 hours of illness before the bowel is running freely and especially if there is fever and toxemia a cathartic is beneficial. However after the bowel is running freely it adds insult to injury and does no good. Many babies are unnecessarily dehydrated by giving too much catharsis. Castor oil or milk of magnesia are best for this purpose.

Starvation Period: A period of starvation of 12 to 48 hours, depending on the severity of the case, is of the greatest importance, at the onset of diarrhoea. The purpose of this is to allow the fire to burn itself out somewhat before adding more fuel to the flame. During the starvation period it is most important to supply water in sufficient quantities to prevent dehydration and to keep the urine flowing freely.

Food: It was formerly thought that indigestion diarrhoea was due entirely to fermentation of fat and carbohydrate. It is now thought that the food mass as a whole is involved rather than any element of it. The important point is to feed small quantities of food at a time and try and stay within the digestive capacity of the gut. Food is given more freely in colitis than in indigestion diarrhoea because the digestive capacity in colitis is not so impaired. The most digestible milks are: 1. Breast milk from human mothers. 2. Protein milk which is readily available in powdered form. 3. Skim boiled milk with or without Lactic Acid. Begin with 1 or 2 ounces every 3 or 4 hours and increase slowly as the stools improve. In colitis or dysentery fermented butter milk is especially good.

Colon Irrigations: These are very valuable when there is much cramp or when fever is high. Warm normal saline is the best irrigating fluid.

Drugs: The value of drugs in the treatment of diarrhoea in infancy is greatly over rated. During the toxic stage of diarrhoea it is best not to use drugs at all, after the toxic stage is past bismuth subcarbonate and paregoric are of some value. Unfortunately the mothers always want medicine given and will insist on the child taking it even though more important fluids may as a result be neglected.

2. Treatment of Dehydration and Acid Base Balance

In order to understand the close relation between dehydration and derangement of the acid base balance it will be worth while to review briefly some of the facts concerning water metabolism and the excretion of acids and basis (alkalies) from the body. Water is absorbed from the gastro intestinal tract and is carried by the blood to the various tissues of the body. The volume of the blood stream is dependent largely on the proper relation of the intake and output of water. If the intake is low or the output is excessive the volume of blood diminishes and if it diminishes beyond a certain point the efficiency of the blood in carrying waste acid metabolic products to the lungs (CO_2) and to the kidneys (sulphates, phosphates, chlorides, etc.) is interfered with. These acid

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metabolites accumulate in the blood and produce acidosis. This happens in diarrhoea. The excessive water loss in the stools diminishes the volume of the blood and dehydrates the tissues and acidosis results. To make matters worse the alkaline bases (Na, K., Mg., Ca.,) are excreted mostly by the bowel so that in diarrhoea excessive amounts of alkali are lost and this makes the tendency to acidosis still stronger.

The chief indication therefore in the treatment of dehydration and acid base derangement is to supply enough water so that the volume of the blood will be brought back to normal and the excretion of urine will be maintained. Then the tissues will be properly flushed and the acid metabolites will be carried to the lungs and kidneys and excreted. Alkalies also should be given and here we have encountered difficulties. Alkalies can be given by mouth but they are poorly absorbed and are quite laxative. Sodium bicarbonate can be given intravenously but there is danger of giving too much and causing alkalosis. If given into the subcutaneous tissues or intraperitoneal cavity it is irritating.

Hartman has found that Sodium Lactate is an excellent alkali and is non irritating to the tissues and can be given any way. Also it is broken down so slowly that there is no danger of alkalosis even if large amounts are given. It can be gotten in strong solution (Molar Sodium Lactate, Lilly) for severe cases of acidosis or in weak solution (Physiological Buffer Salts Solution, Lilly) for milder cases. Sodium chloride is lost in greater quantity than any other salt and must be given in large amounts. Glucose is very valuable both as an anti acid and as a food. Blood contains serum proteins and salts as well as formed elements and should be given in every severe case. Dodd and Casparis have shown that the amount of guanidine in the blood is greatly increased in the toxic cases and have gotten good results with intramuscular and intravenous injections of Ca gluconate which acts as an antidote for guanidine.

The methods of administration of fluids deserve particular consideration. Some of these are very simple and can be used in homes. Others require considerable skill and had best be done in hospitals.

In ordinary cases of diarrhoea enough fluid can be administered by mouth to prevent serious dehydration. To get the maximum intake of fluids by mouth it is advisable; 1. to use fluids that taste good, 2. to give them in the way the infant prefers, and 3. to space their administration at such intervals of time as not to fatigue the patient. Most babies prefer water and milk to other liquids, but gingerale and weak tea have many advocates and can be given in unlimited quantities. Most babies prefer nursing bottles but some will drink only from cups and older ones will take straws and drinking tubes. Most babies drink small amounts at a time so that frequent offering of fluid is advisable; however it should not be offered more than every ½ hour and preferable every hour. These details may seem trivial but they may well mean the difference between success and failure in the treatment of a case. The main reason I believe in giving as little medicine as possible to sick children is that children do not like medicine and if it is forced on them they become rebellious and refuse not only medicine which does them little good but fluids which do them great good.

If the patient refuses sufficient fluid by mouth, the indwelling nasal catheter is sometimes useful. A soft No. 10 catheter is passed through the nostril to the lower end of the esophagus and anchored with adhesive to the lip. Any amount of any fluid can then be given by an aseptic syringe through the catheter. This method is not so valuable in diarrhoea because if much fluid is given it increases the diarrhoea.

The peritoneal cavity has become famous for its ability to absorb fluid. Several hundred cubic centimeters of fluid may be taken up in a few hours. Saline, Hartman's physiological Buffer solution and blood are the fluids chiefly used. Blood should be matched as incompatible blood may give fairly severe reactions. Glucose is chemically irritating to the peritoneal cavity and had better not be used. 10 to 15 cc of fluid per pound of body weight is the amount usually given and it may be repeated in 8 hours if rapidly absorbed. I have been disappointed in intra-peritoneal injections in very toxic infants as they are absorbed quite slowly, sometimes too slowly to be of value. The technique of intra-peritoneal injection is simple and bad results should not follow if aseptic precautions are carried out. Two contraindications are a bladder distended with urine or a gut distended with gas.

Subcutaneous injection of fluid is easy to do. Fluids used are glusose, saline and Hartman's solution. Blood can be given in small amounts. Subcutaneous injections have the disadvantage of being painful and the skin is sensitive for several days afterward so that the babies cry a lot and lose rest. Also in very toxic infants the fluids are absorbed so slowly that they do little good. The dose of fluid used is 10-15 cc per pound of body weight. Injection can be repeated in 8 hours

if the previous one has been absorbed.

Intravenous injections of fluid are necessary in toxic infants and require considerable skill and equipment to be successfully given. The veins usually used are the elbow veins, ankle veins and external jugulars. The internal jugulars and the femorals may be used by men experienced in their use. The superior longitudinal sinus (anterior fontanelle) should not be used except as a last resort. If it is necessary to cut down on a vein the one that courses over the internal malleolus is the easiest to reach. The intravenous cannula devised by Dr. Hendon has proven very useful in cases requiring large amounts of intravenous fluids. It remains open longer than the ordinary trocar and cannula or intravenous needle and so allows the continuous administration of glucose, saline, Hartman's solution or blood at whatever rate the operator desires and without disturbing the patient. The usual dose of intravenous fluid is 10 cc per pound of body weight.

The best tests for the successful and sufficient administration of fluids in diarrhoea are (1) disappearance of the dry skin, (2) maintenance of body weight, (3) disappearance of symptoms of toxemia.

It will be interesting in closing to put down the procedures that would be gone through with in treating a case of severe diarrhoea with toxemia from the time it is brought into the hospital. First an intravenous injection is given of Hartman's molar sodium lactate solution or physiological buffer salts solution with 5 to 10 per cent glucose. At the same time a blood specimen is taken for matching for transfusion. The transfusion is not given until 12 or 24 hours later when the blood volume has been increased because the injection of blood into a circulation filled with dehydrated blood may be followed by disasterous results. After the intravenous injection has been given or coincidentally with it if continuous venoclysis is used, the peritoneal cavity is filled with saline or Hartman's solution. 10 cc of 10 per cent Ca gluconate is given intramuscularly or intravenously with the other fluids. Water is given freely by mouth unless the patient is vomiting. Nervous symptoms if present are controlled by intramuscular injections of sodium luminal or sodium amytol. Abdominal distention is treated by the stomach tube or by saline enemas. Food is not given for 24 to 48 hours and then in 1 or 2 ounce quantities every 4 hours. As a rule no drugs are used.

Summary

1. The treatment of diarrhoea can be divided into the treatment of diarrhoea itself and the treatment of dehydration and acid base imbalance.

2. Diarrhoea is best treated by withholding food until toxic symptoms have abated and then giving small quantities of any digestible milk.

3. Dehydration and acid base imbalance are treated by introducing into the circulation as soon as possible sufficient water, glucose, sodium chloride and other buffer salts and alkalies and blood to bring it back to its normal state of efficiency as an excretory organ.

DISCUSSION

James H. Pritchett, Louisville: Mr. President and Members of the Association: The importance of the subject presented by the essayist can hardly be overestimated. If one cares to take the time and trouble to look up the facts and figures he will be surprised to note the frightful mortality found in infant diarrhea. It overshadows by far such conditions of diseases as scarlet fever, measles, pertussis, also the pneumonias, and its nearest competitor is pre-maturity. We should recognize at once that a serious diarrhea is an acute medical emergency. Procrastination is dangerous and we should institute treatment at once.

There is the old-socalled Michigan treatment (why Michigan I do not know) of piles, purgation and prayer. The prayer part is all right. By way of contrasting the treatment of years ago and that of the present day, I should like to go back to my boyhood days some years ago when my infant sister some fifteen months of age, lay acutely ill. Imagine, if you will, a small cradle here, a kindly neighbor woman standing by fanning the child every once in a while. She had been sick some three or four days. We had called the old family doctor and he had assured us in his kindly way that it didn't amount to much, a little flux, as he called it, and that she would be all right in a few days. He gave her first castor oil, and because she vomited the castor oil he gave her calomel. She was starved several days, and at the end of the week we buried her.

Contrast that with the present day treatment of an acutely ill child gotten early, put on a temporary starvation, not too long, forty-eight hours; in the meantime he receives an abundance of fluids, by mouth if possible, in the form of weak tea or water or sweetened water or glucose, 5 per cent, and if the diarrhea is of sufficient severity we have given probably by way of the vein or by way of the peritoneal cavity (if there is not too much distention of the abdomen) one or two hundred c. c. of fluid, normal saline usually. In this way the child is tided over for a period of several hours. In the meantime, as the essayist has said, the fire

probably has put itself out and the child can be put upon boiled skim milk, diluted if necessary, or upon an evaporated unsweetened milk, also diluted, or, as he also brought out, either protein milk or buttermilk. Some of these take it readily. That is sufficient for the average case if seen early.

In those purged terribly, and some of them are, or seen late we must resort to the intravenous medication of our saline, of glucose, or, as the doctor said, better still of Hartman's solution. This can be obtained in sterile ampule form and with the proper dilution can be given by the average doctor with little trouble.

It is our practice at the City Hospital to expose the vein in the leg over the malleolus and by having the child's foot tied to a board and to the foot of the bed we can use probably a constant drip for many hours. This tends to prevent dehydration early. For that reason we are now saving a great many children who formerly would have died. However, the mortality is still too high. This probably is due to the fact, as could have been said probably of appendicitis this morning, that they were taking too much advice from too many people. Oftentimes the well meaning neighbor suggests a purgative, and then probably another purgative, and the child is badly purged. I am sure this paper will be a great help to all of us present this morning.

T. Cook Smith, Louisville: I think a point which should be emphasized which has not been brought out yet is that in the average private practice in which infants are well cared for and where the infants are seen regularly at a reasonable interval, this disease with its extreme toxemia is quite rare. Most of the patients who are in that condition which produces this tremendous toxemia are brought in from somewhere, they have probably been seen very little by anybody, and in most cases that type of diarrhea which we call diarrhea with intoxication occurs in a child who has had several metabolic upsets before. Except in those cases where there is infection of the bowel, as in true dysentery, which may happen to any well nourished, well cared for child, and which is beside the point, except in those cases with blood in the stool, the child who becomes intensely intoxicated has given quite a little warning of this impending danger. These are rarely well nourished children, they are rather undersized, that type of malnutrition called dystrophy in which the child's face is fairly fat and the rest of the body malnourished.

If we do have a child coming in with this severe extreme toxemia, I think one's judgment is severely taxed to know whether we require all of the remedies suggested or whether it is a simple case that responds well to simple treatment. I think if we can decide which case is the severe one and which is not, great good will be done. We should beware particularly of that little child whose face has become grayish-tinged, particularly about the nose, and is beginning to wag his head in a very peculiar way, vomiting at intervals.

In the talks about appendicitis it is mentioned that a child should be completely undressed and examined. These little children should be carefully undressed and watched. I heard a clinician say once that the diagnosis would not have been made if he had raced up to the bed, pulled down the covers and examined the child in a hurried way. He stood a little way from the bed and watched the breathing of the child, who breathed as a diabetic person breathes who is going into acidosis, a hyperpneic type of breathing.

When the child has a grayish face, with a wagging of the head, and with vomiting at intervals, it is one upon whom an attack should be made, using all methods advised.

I think it is not well to starve these patients too long. If they are given fluids constantly, venoclysis being one of the good ways, starvation is not going to hurt the child. Putting food back into the intestinal tract too soon is one way of destroying everything you have done.

Dr. Bruce said do not belabor these children so constantly that they never sleep. We can lose many of these patients by knowing too many things to do and doing them too constantly. Starve the child and supply moderate amounts of food by way of glucose, replacing its fluids, replacing those chemicals which are lost. Be willing to wait a reasonable time before you begin feeding him.

Transfusion has done great good for these children. Giving of fluids in new ways has done a great deal. I believe credit is due those workers in New York who have reported in the last few years that waiting long enough before feeding is of extreme importance. The things that we learn about dehydration and acidosis and the supplying of foods in these children with diarrhea can be applied in many places where there is no diarrhea. A child who has vomited for four or five days gets in almost the same state.

James W. Bruce, (in closing): I am glad Dr. Pritchett brough out the point of acute diarrhea being a pediatric emergency, because it certainly is, and if you feel that it is going to be necessary in the treatment of your case to do some of the various things that were spoken of, it is best to take the child to the hospital right away and not work at home, because you simply haven't the facilities in a home to carry out the procedure mentioned.

The thing that I would watch particularly in determining whether treatment was being effective on the child is the child's weight. I think it is very important to weigh these babies every

day, because the loss of weight means that the child is letting go more fluid than it is taking in; it means that you have got to be more active in getting fluids in than you have been. As to secretion of the urine, remember that unless the kidneys are active and secreting urine, you are not getting rid of your acid metabolic products; they are being stored up in the body, so the excretion of limpid, straw-colored urine is very important.

If the child's skin is tough, leathery, dry, that child has not sufficient fluid.

Control of the nervous symptoms. If you are getting sufficient fluid in, the child will lose that head rolling and the anxious expression which Dr. Smith spoke of and which is such an important thing.

I should like to reiterate the point about venoclysis. We have found it extremely valuable in the cases of intestinal toxemia, and I think one of the chief values of it is the rest which it affords the patient. You lose sight of the fact that each time you stick a needle in the child it hurts and for some time after you have given the fluid it is uncomfortable, whereas after you make the initial incision and put the cannula in the vein and start the fluid, that is the last discomfort the patient has.

SOME FURTHER STUDIES AND OBSERVATION OF HYPERTHERMIA (FEVER TREATMENT) CASES*

J. C. Rogers, M. D.

Louisville.

This paper was prepared by Dr. Curran Pope, Louisville, and as his assistant, I have been requested to read it.

This paper shall be as brief and condensed as possible, and the cases quoted are of course skeletal. It is to be taken for granted that each and every one has been through my clinic at the Pope Hospital, and a number of the diagnoses of myself and staff confirmed by previous diagnosticians:

(1) Radiculitis Dorsal.
(2) Post Encephalitis.
(3) Arthritis Deformans.
(4) Paresis
(5) Chronic Intractable Neisserian Infection.

The introduction of the induction of artificial fever to Homo Sapiens has worked a new era in therapeutics. Medicine is presenting a moving and imposing spectacle of practical science. What is good of today is replaced by the better of tomorrow and, altruistically, all aiming for the fundamental improvement of the human race, the relief of pain, the correction of deformity and the promulgation of happiness. Recently, in the Journal, I have had the pleasure of entering into a rather extensive consideration of the physiological and other properties of Hyperthermia upon the bodily functions. Today I shall, in a more or less haphazard fashion, consider certain observations that have, among many others, come under my observation in a daily study of this new and important therapy.

I shall first note a most interesting fact. It is of the greatest value in those diseases and disorders that are practically outside of the pale of ordinary medication not only medical, vaccinal, seral, mechanical or otherwise. In other words it enters as a curative means in the field of incurables. It offers to the hopeless, hope; to the down trodden an uplift, little short of some of the fabled prophecies of Aladdin's lamp; of its brilliant future, I can not prognosticate but beg of you, as Dr. Samuel Johnson said of Rasselas, "Hearken ye unto the whispers of credulity."

Another feature that seems to me to be paramount is that the increase of temperature should be generated in the tissues themselves. In all forms of febrile manifestations, except perhaps insolation (or sun or heat stroke) the temperature should be generated in the tissues themselves and not from any external source of heat or radiation of any kind. It is well known that internal bodily activity can generate fever even though the surrounding temperature is mild or even low, that is to say much below the surrounding temperature of the media in which the body is immersed or surrounded. In fact the generation of temperature externally appears, to the author, to bear a relation to the insolation that follows exposure to sources of ordinary heat containing large quantities of infra-red rays, and which often occurs in those exposed to the blasts from large furnaces. I am therefore firmly of the belief that the electrical generation of pyrexia is, at the present state of our knowledge, a real therapeutic measure in the non febrile diseases.

Fever tends to limit pathological condition. Nearly every self limiting disease process is accompanied by febrile manifestations. Chronic infective processes, non febrile in character, are not as a rule, self limiting.

We can not as yet give a clear or concise explanation of the production of fever by many specific and non-specific agents, nor do we fully understand how the immunizing power of the body is aroused by the non-specific agents introduced into the parenteral circulation. McCallum suggests that fever be not interfered with as it was probably a favorable reaction of the body to the infec-

*Read before the Kentucky State Medical Association, Harlan, October 1-4, 1934.

tion, and that possibly immunizing bodies were thrown into the circulation at high temperatures that were not produced at lower ones.

It, therefore, seems worth while to attempt to perfect a method of producing these temperature curves without having to inject disease producing organisms or toxic substances into the patient's circulation; also to determine whether the beneficial effects are produced by the elevation of body temperature per se, or whether they are brought about by some bio-chemical reaction. To determine this point, it is obviously necessary to employ some method whereby the temperature of the body may be raised to any desired point, independent of the action of an induced infection or intoxication.

In the following list we enumerate the chief advantages of this form of pyretotherapy.

(1) It is always available.

(2) No pathogenic organism of unknown effect is injected into the patient; therefore, there is no disturbance of the immune regions nor depletion of complement of the blood.

(3) The frequency, duration and intensity of the temperature or febrile rise or paroxysm is under accurate control.

(4) The desired elevation for that particular case can be produced at will and maintained as long as desired.

(5) Since the intensity, duration and frequency of the fever can be accurately controlled, the reaction or response produced in any particular patient can be more nearly standardized, and repeated indefinitely, if necessary.

(6) We thus learn the most favorable temperature curve for each patient.

(7) Normal metabolic activity of the body is stimulated.

(8) Clinical and laboratory research may be conducted on the effects of fever per se in many conditions.

Personal Observations

In a careful study of quite a number of treatments, I have noted that a rapid rise in temperature without a rapid rise in pulse rate is a favorable sign. What do I consider to be the ideal rapid rise of temperature in a case? I should say, one degree F. every 15 minutes after the first quarter of an hour, until 103-105° F. is reached. It will be observed that patients that start with subnormal temperature very shortly have a matutinal temperature of normal and no longer suffer from chillness in the early morning. Most patients during the first two or three treatments are somewhat resistive to the rapid or proper rise of temperature. This takes place at the commencement of treatment but very soon they are able to stand higher milliamperage and more quickly respond to the thermic effect. I call this "acclimatization."

Even if the pulse rises to 100 or 120 there is no danger so long as the respiration remains not over 26 per minute. The reverse is true, that if respiration increases and pulse rate does not rise, there is no danger but a simultaneous rise of pulse, temperature and respiration demands the physician and an immediate decision as to the course to pursue. It has always seemed a good sign when the respiration drops to normal within a short time after the power from the machine has been turned off. If the respiration immediately falls when the heating process is checked by shutting off the current, we may expect an excellent reaction (cessation of pain, feeling of well being, lessened nervousness, etc.) to follow.

When the patient suffers from difficulty in breathing and experiences air hunger, and the respiration drops, stop treatment immediately, apply cold over the heart, and to the forehead, and give aromatic spirits of ammonia and allow the patient to rest for some time.

Multiple Sclerosis
Locomotor Ataxia or Tabes
Pseudo-Tabes (Luetic Meningitis)
Radiculitis and Poly-Radiculitis
Parkinson's Disease. (Shaking Palsy)
Post-Encephalitic Parkinsonian Syndrome
Arthritis, both infective and gonorrheal
Arterial Sclerosis and High Blood Pressure
Severe Liver and Gall Bladder Infections
Adiposis Dolorosa (Dercum's Disease)
Asthma (Intractable)
Chorea
Raynauds Disease
Thrombo-Angiitis Obliterans
Paresis
Cerebro-Spinal Syphilis
Psoriasis
Optic Atrophy

In the treatment of a number of the diseases, I have enumerated, above a maximal temperature that can be developed or withstood is not necessarily the optimal one. Each case must be studied, each treatment checked and the temperature standardized, so to speak, to each patient. In Arthritis of all kinds, long treatments are essential; this I have learned. Severe conditions of cardiac and vascular weakness do not of necessity preclude its use. Sometimes even two or three degrees rise with special localized treatments, will give relief and as the patient improves and becomes acclimated, we can cautiously increase the temperature. Organically diseased and handicapped patients can not expect to respond to this treatment as would the less seriously afflicted.

Again, remember, that fever is a defense reaction and of great value, where it is under complete control. In my humble judgment, its field will widen. We can in electrical pyretotherapy change the temperature at will. In some diseases (gonorrhoea and syphilis) we need temperatures lethal to the bacteria. In others, milder and lower temperatures, aiming more at slight febrile conditions, will prove effective. The combination of a moderate febrile rise with a high local temperature may eliminate diseased states that have resisted every other kind of therapy.

Science moves ever upward and onward.

CASE REPORTS FROM CASE RECORDS

POST ENCEPHALITIS: Woman, age 35. School teacher, single. Given fever treatment four months. Three treatments per week. Pulse 120 to 130. Respiration never above 26. Temperature rise 104° F. Marked Parkinsonian Syndrome. Unable to talk at times, spasm of eyelids and frequent convergence of the eyes. After a few treatments these symptoms became less marked. When she left the hospital, she was able to drive her car.

RADICULITIS DORSAL: Doctor, age 55. One month's fever treatment. Four to five per week. Temperature rise 104° F. Pulse 100-110. Respiration never over 26. Always took a sedative before treatment. Suffered with severe twinges of intercostal neuralgia, but at the end of treatment absolutely relieved.

ARTHRITIS DEFORMANS: Woman, age 38. Bedridden, painful, swollen joints. Fever treatment given seven months. Two treatments per week. Temperature rise 104° F. Pulse 100-110 Respiration 24. Each treatment followed by massage to joints to break up adhesions. After seven months treatment, could walk some about room.

CHRONIC POSTERIOR URETHRITIS: Man, age 22. College student. Six weeks fever treatment. One treatment per week. Temperature rise 104° F. to 104.8. After six treatments there was no evidence G. C. germs. This infection was of a two years duration following a neisserian urethritis, which was not benefited by the usual treatment.

PARESIS: Man, age 46. Initial infection, nine years ago. Completed treatment, general condition good. Pupiliary changes, ataxia, exaggerated reflexes, and two convulsions. Fever treatment for six weeks. Two treatments per week. This patient reacted better with a temperature rise to 102.5 than he did to a temperature rise of 104° F. At the present time no return of convulsions and all cardinal signs have practically disappeared.

DISCUSSION

J. C. Rogers, (in closing): Fever treatment is not so simple as just putting the patient to bed, applying your electrodes and turning on the machine. It is considerable trouble. In the first place, it is almost impossible to get the proper fitting electrodes to prevent burns. The minute you burn a patient he is not apt to come back again. It is quite hard to train the attendant to give the treatment correctly. Factories are making improvements all the time in electrodes and machine, and now I am glad to say there is a flexible electrode that seems to act beautifully, also there is a new machine that works by induction. Fever treatment has been given previously by the diathermy machine. The new machine raises the temperature by induction instead of metal plates, a cord, (Inductotherm) is wrapped around the body of any member, and by induction the temperature of the body is increased. There is no contact at all, eliminating any danger of burning. Those problems have practically been eliminated in fever treatment.

THE DOCTOR*

LESLIE LOGAN, BARBOURVILLE

I have attended medical meetings and societies of various kinds and purposes for more than twenty years. I have heard all the most common diseases discussed and the most practical operations described. After all, as the negro said, "The language am different, but the meaning am de same."

Therefore, there is nothing along the lines of a scientific discussion that I could give you that you could not go home and find it better and more thoroughly discussed in your library. It is difficult to not be uninteresting if not actually boresome if we attempt to discuss those things with which we are all familiar and rehash that which we have heard so often. Therefore I feel sure that you will pardon me if I depart from the beaten path and attempt to give you something, if not interesting, at least different.

After having practiced medicine and surgery for more than a quarter of a century among our own people, whose intelligence and environment varied from the most ignorant in the remotest and poverty stricken sections of the mountains to that of congress members, senators and governors, with doctors of the old school and of no school at all except nerve and experience down to the young of the ultra modern, amid circumstances and conditions both varied and adverse, from a podalic version in a one room log cabin with no one present but the mother, myself and unborn baby, to a successful

*Read before the Knox County Medical Society.

caesarian section under similar conditions, from a craniotomy with a carpenters chisel and an amputation with a dehorning saw, from the drainage of an appendiceal abscess under the spreading limbs of an apple tree, with a barn door for a table, wash kettle for a sterilizer with no instruments but a scalpel and two forceps and one needle. To the first enucleation of a tonsil and a clean appendectomy plus most of the practical operations of the general surgeon, ever done in Knox County. After having learned all the superstitions from the hanging of a dead black snake in a tree to produce rain to the sticking of a knife in the ground to stop a hemorrhage produced by that knife. After having learned all the magic cures for all the incurable diseases from the application of angle worm oil to the charming away the most malignant tumor, I believe such a past and such a varied experience will warrant me the privilege to talk to you about us. Therefore I shall call the subject of this paper "The Doctor."

From the time that the first man and woman raided the tree of knowledge, down through the long and mysterious corridors of time until this moment, which we call the present, there were and have been doctors of various kinds and for various purposes. It does not require a great effort of the imagination to suppose that the first man scooped from the crystal pool of Eden water that he applied to the lovely ankle of the first woman for a sprain, thereby initiating into the world and into the practice of medicine, if you please, hydrotherapy. No doubt, the fair fingers of Eve plucked from the anatomy of the father of mankind some of the thorns that his transgression had produced, thereby performing the first surgical operation at the very dawn of the beginning of things. Beginning, if you please, in the morning of creation the mission that has kept alive the man whom we call doctor whose purpose has always been to relieve pain and to prolong life.

To me a doctor means a man that can diagnose more or less accurately most of the diseases that are common to his locality. A man with a comprehensive knowledge of the more common drugs of known worth and the art of successfully applying them in the treatment of disease. A man of such personality as will beget confidence and maintain respect. A man who has a profound sympathy and knows the agony of physical pain and the anguish of mental suffering. Last, but not least by any means, a man who can keep secret the sacred things of life, keep his mouth free from common gossip and his nose out of other people's business.

I have no criticism of the laboratory and the many mechanical devices used as aids to accurate diagnosis but I do deplore the tendency of the modern doctor to depend upon them to the neglect of the equipment which God has given him and the instruments of nature that should be trained, the instruments that we always have with us. And after all is said, the instruments, the proper training and use of which, distinguish us from the doctor in theory, and the doctor in fact. I mean, the hands, the ears, and the eyes.

No man has the right to tack "M. D." on to his name unless he is able in a remote district away from all mechanical aids, surrounded by squalor and ignorance, to make correctly a diagnosis of the majority of diseases common to that section with his hands, his eyes and his ears. I should not call that man a doctor who unaided could not name the disease that produces emaciation, flushed cheeks and the sparkling eye. That disease that produces the hacking cough accompanied with the fine crepitant rales at the end of forced inspiration. That disease that produces the slight increase in the pitch in the percussion note. All of which are determined by the eyes, the ears and the hand.

I should not call that man a doctor who could not interpret the rigidity and tenderness in the right iliac fossa accompanied by vomiting and pain, with only the instruments that nature endowed him with. The list is too long to mention, but to the trained eyes, hand and ear all the most common ailments are recognizable.

The recognition alone of symptoms is not sufficient. Too many symptoms are common to many diseases. The doctor must be able to analyze symptoms that they may mean something definite. This is possible. Every disease signs its name on the patient with letters that are legible if we will only take the time to learn to read.

Any man who has the temerity to style himself a doctor should know all the worthwhile drugs as the accomplished musician knows his notes, and like the musician, should know what the effect of the drugs are like upon the human being is, as the musician knows what effect each note will have on the ear. The number of worth while drugs are not long. They can almost be named on the fingers of both hands, but the number exploited on the market is legion. The desire for money has as is usually the case, overshadowed the real desire for worthwhile accomplishments and has gone forth seeking a market for any and

everything that will pay. I think it worth while to pause here and give you the list of drugs that are of known value, drugs that are old because they have stood the test. Drugs that are household names in many instances because they have done the work.

Arsenic, Acids, Alcohol, Bismuth, Bromides, Cinchona, Glandular Extracts, Iodine, Iron, Mercury, Opium, Radium, Silver, Oils, Vaccines and Serum.

I consulted a druggist in the preparation of this paper and he stated that the average drug store carried about thirty-eight hundreds of preparations for the treatment of diseases. I also asked him how many separate and distinct herbs, elements and animal extracts had been or were now quoted in the various pharmacopeas. His answer was astonishing. In his opinion there was 25,000. You can cut these figures ten ways and still the task of grasping the physiological action and therapeutic use of such a number is well beyond the power of any man who is not a genius in this line.

I repeat that the doctor should be familiar with just so many tried and true remedies as his mind can comprehend accurately and apply efficiently in the treatment of disease. Lets not be stampeded into trying everything that is exploited on the market nor into dropping that which we have found from experience to be of value. There used to be a rule that they taught us in rhetoric that will illustrate here what I am trying to say:

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

Hang onto that which has proven its worth, even if it be old fashioned. And as the advertiser says, "Beware of substitutes."

You doctors who are as old as I am can remember that since you opened an office it has been filled with literature and samples of cure alls. Foods and fads, fakes and fallicies. Hay fever remedies and asthma cures. The foods predigested and concentrated offered at a high price, I will bet one thousand to one will not sustain life, much less substitute for natural food. So the man that would be honored with the title of doctor must be a man who can and does recognize drugs of value in the treatment of disease and not an ultra modern cafeteria manager.

The doctor should have a personality that begets confidence and holds respect. This can be done in only one way and that is to be a square shooter. Tell the truth. Be honest and frank with the patient. In other words, be a man of character and integrity. Why is it that you hear so many times this statement, "Tell me the truth, Doctor, I want to know." "It will not scare me." "Have I tuberculosis or have I cancer." "We want to know what is the matter of Mrs. So and So. I knew you would not tell her but we want to know." Why all the mystery and doubt? The only answer is that the doctors of the past and many of the present, I am afraid, were and are either unmitigated liars, or just don't know and do not have the guts to admit the truth.

As another requisite of a doctor I mentioned is a profound sympathy. The word sympathize is defined, "to suffer with," and I have often thought that every doctor before he is allowed to treat, handle and manipulate a sick or broken body should have to be subjected to a period of physical pain and mental anguish. If this were true I believe then the doctor could appreciate what pain meant and truly sympathize with his patient. The hand would acquire a gentler touch, and the mind would have a greater tolerance for the peevishness and apparent unreasonableness for the human being who is racked with pain and whose mind is warped with misery, whose broken body and spirit has been entrusted to your care. If this were true you would see fewer dressings ripped from the quivering flesh of a patient without any regard for his feelings. If this were true you never would see the human body violated and outraged as I have seen it done in my brief army experience. If this were true you never would see a so-called doctor seize a Colle's fracture of two days' standing in a man past sixty, without anesthetic or warning and attempt to reduce it with all the roughness that a real doctor would use under a general anesthetic. This I have seen more times than once in some of the biggest hospitals in the biggest city in the United States and things of almost equal brutality I have seen repeatedly in Knox County.

If this were true children and even robust men would not fear the doctor's office for the smallest sort of treatment that can be exceedingly painful if not properly handled. With all the modern anesthetics both local and general there is small reason for much pain to be caused by the doctor. If any doctor is not equipped both mentally and mechanically to do with the least pain and danger, all work that comes his way he should be honest enough and man enough to refer those cases to the doctor who can properly care for them.

If any man claiming to be a doctor hasn't sense enough to know the limitations of his ability as well as his equipment, he is a menace to the public and should be barred from any practice. The human bodies that

are destroyed or maimed for life on the altars of bunglesome surgery throughout this land are appalling. Taking all classes of men who operate, it is my opinion there is as much misery caused as is alleviated, and as many lives destroyed as are saved. The laity has no way of judging the ability of a surgeon or doctor. And the one strongest proof that there should be and is a literal pit of fire and brimstone is the fact that many doctors will tell their trusting patients with all kinds of assurance that they can do successfully and have done successfully the particular kind of operation when they know that they are lying. When they know full well that they have never done any such operation and that their attempt is purely an experiment at the cost of a patient who trusts you to the extent of placing their life in your hands. If all doctors had the proper amount of sympath and honesty people would not enter their offices with fear and trembling, but gladly, and sustained by a well founded hope of relief.

Lastly, let me repeat, that a doctor should be a man who can keep well the personal secrets entrusted to him in his profession, keep his mouth free from common gossip and his nose out of other people's business. If he will qualify under the first named requisites a man with comprehensive knowledge of the worth while drugs, a man with a personality that begets confidence and commands respect; a man with a profound and understanding sympathy, he will not have time to spread the latest scandal, no desire to besmirch the good name of some girl or woman, and no desire, as is all too common now, to betray your competitor with a kiss and then stab him in the back.

NEWS ITEMS

The Southeastern Surgical Congress will hold its sixth annual assembly in Jacksonville, Florida, March 11, 12, and 13, 1935. The Congress has met previously in Atlanta, Birmingham, and Nashville.

The states composing the Congress are Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia. A record attendance is anticipated at the Jacksonville meeting. Since March is the most desirable month to visit the land of flowers many surgeons will no doubt combine business and pleasure and attend during this season of the year.

Some of the most distinguished surgeons in the country representing the different surgical specialties have been invited to appear on the program. A partial list of those who have already accepted places is as follows: Doctors Walter C. Alvarez, Perry Bromberg, Hugh Cabot, Willis C. Campbell, George W. Crile, John F. Erdmann, Paul Flothow, Ralph Green, Arthur Hertzler, C. Jeff Miller, Alton Ochsner, J. C. Patterson, J. Knox Simpson, J. W. Snyder, and W. A. Weldon. More than twenty others will be listed when the program is completed, which will be mailed February 15, 1935.

For information address Dr. B. T. Beasley, Secretary-Treasurer, 1019 Doctors Building, Atlanta, Georgia.

NEWS ITEM

The Louisville Distirct Dental Society extends a cordial invitation to all members of the Kentucky State Medical Society to attend our regular meeting on March 21, 1935, 7:30 p. m., at the Brown Hotel, at which time Doctor Joseph Colt Bloodgood, of Baltimore, will be our guest speaker.

Doctor Bloodgood is an internationally known authority on tumors of the mouth and will speak on that subject.

Dinner will be served at 6 o'clock—$1.00 per plate.

Those who wish to attend the dinner may call or write Doctor E. C. Hume, 710 Heyburn Building, telephone Jackson 6153, for reservations.

The Louisville District Dental Society.

On December 15th, 1934, the new Nurses' Home at the Guerrant Mission Clinic and Hospital, Winchester, Ky., was formally dedicated with services appropriate for the occasion. The building is of modern construction throughout, with four stories, including basement, and replaces the structure that was destroyed by fire last March. Such is the volume of work done at the Hospital that the completion of the new building will add greatly to the efficiency and comfort of the staff.

Last month the staff was augmented by the addition of an Ear, Eye, Nose and Throat specialist, Dr. C. L. Woodbridge, a graduate of Princeton University and Johns Hopkins Medical school, who has offices at the Hospital. Dr. Woodbridge is a returned Medical Missionary from China.

The Brown Hotel has been selected as the headquarters for the annual meeting September 30, October 1-2-3. Moderate rates have been secured for the attending doctors and their families. The Auxiliary will also hold all their meetings in this hotel.

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NEXT MEETING LOUISVILLE

COUNTY SOCIETY REPORTS

Warren: The regular meeting of the Warren County Medical Society was held in Bowling Green on Wednesday, January 9th. Dr. R. C. Moss, of Rockfield, was elected president. Dr. C. E. Francis, Bowling Green, was named vice president, and Dr. Hal Neel, secretary-treasurer.

The speaker of the evening was Doctor Paul Turner, Hazelwood Sanitorium, Louisville.

HAL NEEL, M. D., Secretary.

Scott: The February meeting of the Scott County Medical Society was called to order at 7:45 P. M. with the following members present: R. C. Lake, W. S. Allphin, H. V. Johnson, L. F. Heath, our president, F. W. Wilt, and secretary, F. W. Caudill. The following visitors were present from Lexington: Dr. Thompson, an Interne at the Good Samaritan, Dr. Adams, on interne at St. Joseph's and Dr. John Scott, the speaker of the evening.

The minutes of the previous meeting were read and approved.

J. W. Scott was immediately called upon for his discourse on "The Use of Digitalis in Heart Disease." Dr. Scott gave an excellent lecture bringing out all of the practical phases of the use of digitalis. He pointed out the three heart conditions in which its use was indicated and brought out most vividly those conditions in which its use is contraindicated. He discussed its toxicology and pointed out the best and most effective methods of administration.

F. W. CAUDILL, Secretary.

Caldwell: The members of the Caldwell County Medical Society met in the County Health Department's headquarters and elected the following as officers for the ensuing year: W. C. Haydon, president; Clinton B. Walker, vice-president; W. L. Cash, secretary-treasurer; Frank T. Linton, delegate; J. O. Nall, alternate; I. Z. Barber, Kenneth L. Barnes, W. P. Morse, board of censors.

The Society went on record as favoring the administration of immunizing agents in the prevention of preventable diseases, such immunizing agents to be furnished by the State Board of Health free to all physicians, who would administer them, collecting a fee therefor from those able to pay, and administer without cost to those unable to pay, and make regular reports to the Health Department.

W. L. CASH, Secretary.

Henderson: Henderson County Medical Society held a joint meeting and dinner at the Soaper Hotel on the evening of Jan. 11, 1935.

Those present were A. T. McCormack, State Secretary, W. V. Neel, J. L. Tanner, J. C. Rogers, R. E. Smith, J. O. Strother, H. F. Clay, P. Ligon, G. F. Jones, Silas Griffin, E. N. Powell,

G. W. White, W. Forwood, and W. L. O'Nan.

Commissioners H. H. Hatchett and Geo. Vogel, Messrs. N. O. Kimbler, County School Supt., and C. E. Dudley, City School Superintendent, and E. L. McDonald.

Mr. James Bates and Veterinary Doctors Gest and Carter; Messrs. Biggs, Royster, Eastwood and Levy; Magistrates Peters, Langley, Sasse, Wolfe, Sowards and Denton.

A very interesting talk and discussion was given by A. T. McCormack, following which the meeting adjourned.

WALTER L. O'NAN, Secretary.

Scott: A meeting of Scott County Medical Society was called to order at 7:40 P. M. with the following members present: Drs. F. W. Wilt, L. F. Heath, F. C. Barlow, H. V. Johnson and F. W. Caudill. The visitors at this meeting were Dr. A. C. Yates, Dr. W. N. Lipscomb and Dr. Tom Marks, the latter being the essayist of the evening.

There being no unfinished business to take care or, Dr. Marks was immediately called on for his discussion of Diphtheria. Dr. Marks gave an excellent discussion on this disease, its symptomatology, its immunology and its treatment. Dr. Marks dwelt particularly on the occurrence of Diphtheria in supposedly immunized children. A point that he made was that some of the worst cases of Diphtheria that he has had in recent years had been in children who had received toxin-antitoxin. His point was that certain children being extremely difficult to immunize against the disease would likely have the disease very severely if it was contracted. In other words their immunization mechanism must be defective or deranged in such a way as not to permit them to get any immunity. Both Dr. Marks and Dr. Lipscomb reported a case of Diphtheria in known Schick negative individuals. The discussion was joined in by all those present and many interesting points were brought out about the immunization of children against Diphtheria, pointing out particularly the pitfalls that one may encounter in this work.

F. W. CAUDILL, Secretary.

Grant: The Grant County Medical Society held its first meeting of the new year at the Health Department in Williamstown, Wednesday evening, January 16th, 1935, at 7:30 P. M.

The following members were present: J. J. Marshall, J. W. Abernathy, R. E. Kinsey, A. D. Blaine, C. M. Eckler, N. H. Ellis, and C. A. Eckler.

Our newly elected president, Dr. J. J. Marshall, presided at the meeting in a business and up to date manner. He started the new year very enthusiastic and put vim in all the members present. The minutes of the last meeting were read and approved and correspondence reported and dispensed with, and we talked at length on how poorly we had been paid for our care of the Relief and it seemed to us that everybody was paid, the butcher, grocer, etc., but it was up to the Doctor to do the work gratuitously. Now this is not fair, for our Sister State, Ohio, pays their doctors well for Relief work. Something is radically wrong.

There were a number of clinical cases reported that were interesting which led up to the subject of the evening, Influenza, which was open for discussion by Dr. C. M. Eckler in a very able, lucid way. He took the history of the epidemics and touched on the seriousness of the malady with reference to its complications, etc. His treatment was complete and approved by all members of the Society.

J. J. Marshall, president, now appointed his Program Committee for the year 1935, as follows: C. A. Eckler, Secretary, Chairman; C. M. Eckler and R. E. Kinsey. This program committee is to have the program ready for publication within ten days after each meeting.

We all enjoyed this meeting and resolved to make this new year a Post-Graduate Course for our Society.

We then adjourned to meet the third Wednesday in February at the usual hour.

C. A. ECKLER, Secretary.

Grant: The last meeting of the Grant County Medical Society was held in the office of the Health Department, Wednesday evening, December 19, 1934, at 7:30 P. M. with the following members present: J. W. Abernathy, J. T. Davis, R. A. Kinsey, A. W. Blaine, N. H. Ellis, and C. A. Eckler.

The minutes of the last meeting were read and approved, and all unfinished business disposed of. This being the date for election of officers for the year 1935, we at once entered into the election. Dr. J. J. Marshall, of Crittenden, Ky., was elected president of our Society for 1935 by unanimous vote. Dr. A. D. Blaine was unanimously elected vice-president; Dr. C. A. Eckler was unanimously elected secretary and treasurer, and Dr. C. A. Eckler was elected delegate to the state meeting with Dr. N. H. Ellis as alternate.

The board of censors is the entire society. We now had reports of clinic cases and many interesting cases were reported and discussed at length.

This being the time for the regular payment of monthly dues, the following members paid their dues for 1935: J. W. Abernathy, $5.00; N. H. Ellis, $5.00; J. T. Davis, $5.00; R. E. Kinsey, $5.00; H. F. Mann, $5.00; and C. A. Eckler, $5.00. We now adjourned to meet the third Wednesday night in January at the usual hour.

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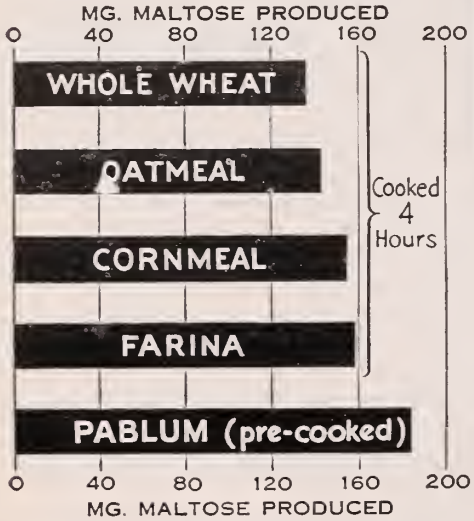
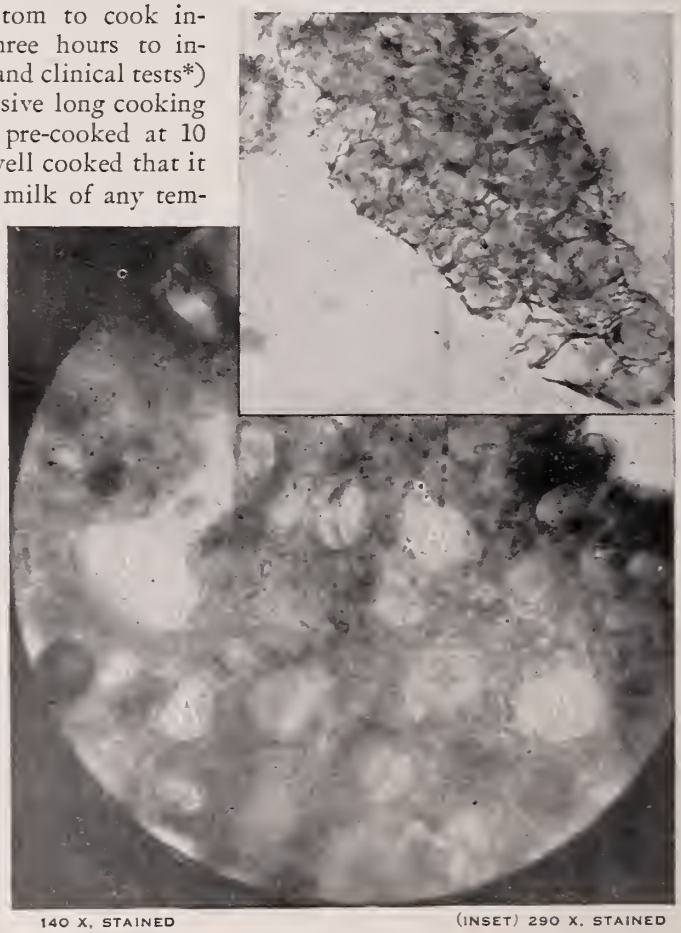


*Chart shows that maltose production is much greater for Pablum prepared with cold water than for other cereals cooked 4 hours. Ross and Burrill (Journal of Pediatrics, May 1934) conclude from this and from the total soluble carbohydrate formed that starch digestion of Pablum is more rapid than that of 6 other cereals.



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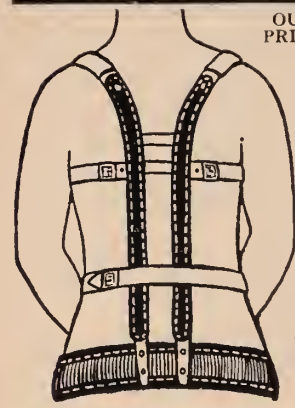
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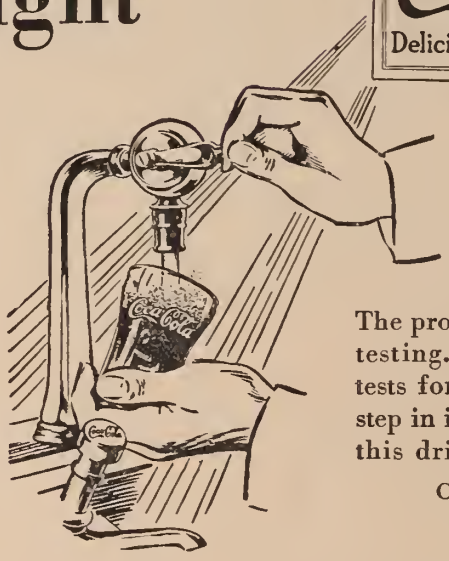
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COUNTY	SECRETARY	RESIDENCE	DATE 1935
Adair	N. A. Mercer	Columbia	April 3
Allen	A. O. Miller	Petroleum	April 24
Anderson	J. B. Lyon	Lawrenceburg	April 1
Ballard	F. H. Russell	Wickliffe	April —
Barren	Paul S. York	Glasgow	April 17
Bath	H. S. Gilmore	Owingsville	April 8
Bell	R. F. Porter	Middlesboro	April 12
Boone	R. E. Ryle	Walton	April 17
Bourbon	W. B. Hopkins	Paris	April 18
Boyd	R. G. Culley	Ashland	April 2
Boyle	P. C. Sanders	Danville	April 9
Bracken	J. M. Stevenson	Brooksville	April 1
Breathitt	Frank K. Sewell	Jackson	April 16
Breckinridge	J. E. Kincheloe	Hardinsburg	April —
Bullitt	S. H. Ridgeway	Shepherdsville	April —
Butler	G. E. Embry	Morgantown	April 3
Caldwell	W. L. Cash	Princeton	April 2
Calloway	A. F. Russell	Murray	April 4
Campbell-Kenton	Luther Bach	Bellevue	April 4-18
Carlisle	J. F. Dnn	Arlington	April 2
Carroll	J. M. Ryan	Carrollton	April 9
Carter	W. S. Hawn	Grayson	April 9
Casey	Wm. J. Sweeney	Liberty	April 25
Christian	M. A. Gilmore	Hopkinsville	April 16
Clark	R. H. Scobee	Winchester	April 19
Clay	J. L. Anderson	Manchester	Apdil 9
Clinton	S. F. Stephenson	Albany	April 20
Crittendon	C. G. Moreland	Marion	April 8
Cumberland	W. F. Owsley	Burkesville	April 3
Daviess	I. A. Thorpe	Owensboro	April 9-23
Elliott			
Estill	Walter Cox	Irvine	April 10
Fayette	John Harvey	Lexington	April 9
Fleming	J. B. O'Bannon	Flemingsburg	April 10
Floyd	J. Garcher	Allen	April 24
Franklin	W. S. Snyder, Jr.	Frankfort	April 4
Fulton	J. C. Morrison	Hickman	April 10
Gallatin	J. M. Stallard	Sparta	April 18
Garrard	J. E. Edwards	Lancaster	April 18
Grant	C. A. Eckler	Dry Ridge	April 17
Graves	H. H. Hunt	Mayfield	April 2
Grayson	C. F. Blankenship	Leitchfield	April 25
Green	S. J. Simmons	Greensburg	April 1
Greenup	C. W. Monroe	Greenup	April 12
Hancock	F. M. Griffin	Hawesville	Apdil 1
Hardin	D. E. McClure	Elizabethtown	April 11
Harlan	W. R. Parke	Harlan	April 20
Harrison	W. B. Moore	Cynthiana	April 1
Hart	S. F. Richardson	Munfordville	April 2
Henderson	Walter O'Nan	Henderson	April 8-22
Henry	Owen Carroll	New Castle	April 29
Hickman	Chas. Hunt	Clinton	April 4
Hopkins	David L. Salman	Madisonville	April 4
Jackson			April 6
Jefferson	Uly H. Smith	Louisville	April 1-15
Jessamine	J. A. VanArsdall	Nicholasville	April 18
Johnson	P. B. Hall	Paintsville	April 13
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Knox	F. R. Burton	Barbourville	April 26
Larue	D. W. Gaddie	Hodgenville	April 2
Laurel	Oscar D. Brock	London	April 10
Lawrence	W. C. Gose	Louisa	April 15
Lee	W. D. McCullom	Beattyville	April 13
Leslie	John H. Kooser	Hyden	April —
Letcher	R. Dow Collins	Whitesburg	April 30
Lewis	J. D. Liles	Vanceburg	April 15
Lincoln	Lewis J. Jones	Houstonville	April 19
Livingston	Wm. C. Davis	Salem	Apdil —
Logan	Walter Byrne, Jr.	Russellville	April —
Lyon	H. H. Woodson	Eddyville	Apdil 2
McCracken	Leon Higdon	Paducah	April 24
McCreary	R. M. Smith	Stearns	April 1
McLean	G. L. Thompson	Calhoun	April 11
Madison	Hugh Mahaffey	Richmond	April 18

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Marion	W. C. Guffey	Lebanon	April 16
Marshall	L. Henson	Benton	April 17
Mason	Allen F. Murphy	Maysville	April 10
Meade	A. A. Baxter	Brandenburg	April 25
Menefee	E. T. Riley	Frenchburg	April —
Mercer	J. Tom Price	Harrodsburg	April 9
Metcalfe	P. W. Bushong	Edmonton	April —
Monroe	Geo. E. Bushong	Tompkinsville	April —
Montgomery	D. H. Bush	Mt. Sterling	April 9
Morgan	W. H. Wheeler	Betsy Sayne	April —
Muhlenberg	G. L. Simpson	Greenville	April 9
Nelson	R. H. Greenwell	Bardstown	April —
Nicholas	T. P. Scott	Carlisle	April 15
Ohio	Oscar Allen	McHenry	April 3
Oldham	S. J. Smock	LaGrange	April 2
Owen	K. S. McBee	Owenton	April 4
Owsley	D. E. Wilder	Booneville	April 1
Pendleton	W. A. McKenney	Falmouth	April 10
Perry	R. L. Collins	Hazard	April 8
Pike	M. D. Flanary	Pikeville	April 1
Powell	W. Johnson	Stanton	April 1
Pulaski	M. C. Spradlin	Somerset	April 11
Robertson			April 15
Rockcastle	Lee Chestnut	Mount Vernon	April 11
Rowan	G. C. Nickell	Morehead	April 23
Russell	J. B. Scholl	Jabes	April 8
Scott	F. W. Wilt	Georgetown	April 4
Shelby	W. E. Morris	Shelbyville	April 18
Simpson	N. C. Witt	Franklin	April 9
Spencer			
Taylor	W. B. Atkinson	Campbellsville	April 4
Todd	B. E. Boone, Jr.	Elkton	April 3
Trigg	H. L. Wallace	Cadiz	April 24
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	April 24
Warren	Hal Neal	Bowling Green	April 10
Washington	J. H. Hopper	Willisburg	April 17
Wayne	R. E. Teague	Monticello	April 4
Webster	C. M. Smith	Dixon	April 26
Whitley	C. A. Moss	Williamsburg	April —
Wolfe	G. M. Center	Campton	April 1
Woodford	Chas. F. Voigt	Midway	April 4

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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TO OUR MEMBERS

Again we are called upon to issue the annual reminder to members of the Association that dues for the current year must be paid in time to reach us on or before April 1st, if there is to be no interruption in their receipt of the JOURNAL. The matter is one in which we have no discretion. The postal laws make it mandatory upon us to drop the names of all who are in arrears on that date.

It is gratifying to note that there was an increase in membership in 1934. The membership of the Association is keeping approximately at a normal level. It is earnestly to be hoped that there will be no falling below that level this year. Never in the history of the Association were the problems confronting organized medicine more complicated or more fraught with potentialities for good or bad than they are today. It, therefore, behooves us to be as fully and as closely organized as possble, if the solutions of these problems are to be such as shall insure best results for the profession and for the people of the State who are dependent upon the profession for the protection of their health and their lives.

Aside from this, it is very important for physicians to keep themselves continuously in good standing, both in their respective local societies and in the State Association. Only in this way, can they be assured of receiving the JOURNAL regularly and of uninterrupted protection against suits charging malpractice. Several instances could be cited where negligence or carelessness in the latter particularly have proved costly in the shape of attorneys' fees. No doubt, many members who have not yet paid their dues intend to do so shortly. Why not send in the remittance at once? From the standpoint of economy alone, membership in good standing may prove worth many times the financial outlay entailed; the professional value of contacts so maintained is not to be measured in terms of money.

DR. GEORGE W. BUSHONG

The medical profession in Kentucky, particularly the profession in Monroe and adjoining counties, suffered a distinct loss in the death of Dr. George W. Bushong, which occurred on January 7th last.

Graduating from the Hospital College of Medicine, Louisville, in 1897, Dr. Bushong shortly thereafter opened an office in Tompkinsville and continued in active practice there until 1928. Upon the placing of public health service in his county upon a whole-time basis in that year, Dr. Bushong became Director of the Monroe County Health Department and in that position rendered faithful and efficient service until his untimely death. Prior to 1928, he had served for many years as part-time Health Officer in Monroe County.

Dr. Bushong was possessed of a personality which endeared him to friends and associates, and of natural endowments which fitted him for the leadership which he exercised, not only in the medical profession in his section of the State, but also in civic affairs generally. This leadership was signally demonstrated by the manner in which he handled the emergency created by the tornado that, in May, 1924, exacted a toll of twenty deaths and 181 injured in Tompkinsville and other sections of the county. His were the loyalty and the breadth of sympathy characteristic of the True Physician.

THE AMERICAN PUBLIC HEALTH ASSOCIATION

The 64th annual meeting of the American Public Health Association will be held in Milwaukee, October 7-10. The Hotel Schroeder will be its headquarters.

The able Health Commissioner of Milwaukee, Dr. John P. Koehler, has been appointed General Chairman of the Local Committee on Arrangements and has already planned a large number of entertainments and receptions for the visiting delegates. The Association has been able to secure many speakers who will appeal not only to the health officers but to the practicing physician as well.

Tentative Section programs make mention of such subjects as Pneumonia, Syphilis, Measles, Birth Control, Bathing Places and others that are interestng to every practicing physician. The physicians of Kentucky have been extended a cordial invitation to attend this meeting.

MEDICAL ECONOMICS

Most of the physicians in Kentucky have, by this time, become acquainted with matters pertaining to Health or Sickness Insurance. No bill of any importance relating to Compulsory Health Insurance is now before Congress, and it is doubtful that one will be introduced at this session. The Kentucky legislature will not be in regular session again this year; so no social legislation can be enacted in this State during 1935. The House of Delegates of the American Medical Association, meeting recently in special session, reaffirmed its stand against Socialized Medicine, requested further study of the whole field, and asked for a comprehensive report at the annual meeting in Atlantic City, June, 1935.

All of these matters, and many others, have been gone over very thoroughly at a called meeting of the Council in Louisville, February 24th. County Societies throughout the State will be contacted as rapidly as possible by the various Councilors, and through them detailed information will be transmitted to individual members of the profession. It will be pointed out that medical men now face threats, rather than accomplished facts, in the matter of social legislation.

But we must not be lulled into a feeling of false security by what has gone before. Every indication points to the fact that bills tending to socialize the practice of medicine will be introduced in our National Congress and State Legislature at not far distant dates. What, then, can we do right now to discourage this sort of thing? In the first place, our wishes should be made known by personally contacting Kentucky's Senators and Representatives at Washington. Every one knows how men in public life at the Capitol are being beseiged by petitions, telegrams, et cetera, on every subject, and it might appear that little could be accomplished by physicians using this line of attack. We have been informed reliably, however, that a short personal note written to any of these gentlemen, will carry much weight. You should make it plain that you and other physicians in your community have cared for in the past, and at the present time are caring for, the medical needs of your people. Meanwhile work should go forward to the end that the people of Kentucky should be served medically in a better way than ever before. Let every County Society study its individual problems, and then present its difficulties and plans to your Committee on Medical Economics, of which A. Clayton McCarty is chairman.

There is another way that you as an individual may be active: During the present year members of the next General Assembly, including half the Senators and all of the Representatives, will be elected. It is important that members of the medical profession and the public generally shall assure themselves that candidates for the General Assembly understand that the medical profession of Kentucky has accepted the responsibility for public health and medical services, which has been imposed upon them by the people of the State through succeeding legislatures. It is important that they be pledged not to accept or support the provisions of any state compulsory sickness insurance bill, such as that proposed by the so-called American Association for Social Security or "Epstein Bill."

A list of Kentucky Senators and Representatives is herewith appended:

Senators from Kentucky are: Allen W. Barkley, Paducah, and Marvel Mills Logan, Bowling Green.

Representatives from Kentucky are: 1st District—William Voris Gregory of Mayfield. 2nd District—Glover H. Cary of Owensboro. 3rd District—Emmet O'Neal of Louisville. 4th District Cap R. Carden of Munfordville. 5th District—Brent Spence of Ft. Thomas. 6th District—Virgil Chapman of Paris. 7th District—Andrew Jackson May of Prestonburg. 8th District—Fred M. Vinson of Ashland. 9th District—John M. Robsion of Barbourville. Address Senators, care Senate Office Bldg., Washington, D. C. Address Representatives: care House Office Bldg., Washington, D. C.

Write to one or several of these men. Thank them for their support of the Medical profession of Kentucky in the past, and ask them to continue to speak and work against the placing of medical care under the supervision or authority of lay and political individuals or groups. Remember always that it is easier to prevent the passage of legislation than it is to have it repealed, once passed.

MEDICAL RELIEF WORK

Plans have been completed for placing the Medical Relief Work in Kentucky under the direction of the State Medical Society, with County Supervision by doctors in those communities where the new plan is accepted. Fees will be more adequate and equitable. Appropriations from Washington, soon to be made, are all that delay the placing in operation of this plan at the present time. Details will be forthcoming in the next issue of the State JOURNAL.

ORIGINAL ARTICLES

THE FEDERAL SOCIAL SECURITY PROGRAM AND THE CONGRESS*

By A. T. McCormack, M. D.

Louisville

The medical profession believes that regimentation of the profession and lay control of medical practice would be fatal to medical progress and would inevitably lower the quality of medical service now available to the people.

The primary considerations of physicians are the welfare of the people, the preservation of their health and their care in sickness, the advancement of medical science, the improvement of medical care, and the provision of adequate medical service to all of the people.

Physicians constitute the only group in the United States qualified by experience and training to guide and suitably control plans for the supervision of medical care. The quality of medical service to the people of the United States is better than that of any other country in the world.

The American Medical Association and the Kentucky State Medical Association reaffirm their opposition to all forms of compulsory sickness insurance whether administered by the Federal government, the governments of the individual states, or by any individual industry, community or similar body. They also encourage county medical organizations to plan "for the provision of adequate medical service for all the people, adjusted to present economic conditions, by voluntary budgeting to meet the cost of illness."

It has never required compulsion to cause the medical profession to give its utmost to the American people. This is not only true during the present emergency, it has been true in every emergency that has confronted the United States.

The organized medical profession recognizes the necessity, under conditions of emergency, for Federal, State, and local aid in meeting the basic needs of the indigent. It strongly opposes any provision whereby Federal subsidies for medical services are administered and controlled by other than physicians.

The Kentucky State Medical Association is grateful to our Senators and the members of Congress from each district in Kentucky for their generous and uniform support of public health and medical legislation which has been approved by it. The General Assembly of Kentucky has placed the responsibility for public health and medical service squarely on the shoulders of the medical profession for the past half century. The Kentucky State Medical Association accepts this responsibility and believes its members should write to our Senators and members of Congress, expressing their gratitude for past support and urging them to resist to the utmost any bill providing for sickness insurance and any amendment offered to any pending legislation providing either sickness insurance or for lay control of public health and medical services.

As your representative, and in the interest of the State Health Department, I have been in Washington constantly during the hearings on the Economic Security legislation. There is no reference to sickness insurance in the pending Doughton bill providing for social security, and the Kentucky members of Congress are opposed to any amendment which may be offered for this purpose. Their enthusiasm in opposition to such amendments may be increased by thoughtful personal letters, or, at the proper time, telegrams giving them the individual's own studied reasons for such opposition. Where it is possible to do so, letters should be secured, opposing the socialization of medicine, from intelligent and influential men and women outside of the profession and sent to our Senators and Congressmen. Of course, our Senators and Congressmen are Kentuckians. They know the traditional respect of the State for our profession. All we have to do is to maintain that respect.

The Kentucky State Medical Association has investigated all of the plans which are in force in foreign countries. It has also studied the various experiments that are being tried in other states and cities in this country—more than one hundred and fifty in number.

The Jefferson County Medical Society, serving the largest metropolitan area in the State, after two years of study, has prepared, and is now making effective, a practical plan for providing adequate medical service for all of the people of Jefferson County. This entire study and plan was published in full in the February issue of the Kentucky Medical Journal. It is perfectly apparent that such a plan cannot be adapted to sparsely settled rural areas which can support very few physicians, and that other plans must be worked out even for our counties having cities of the second and third class. The Association insists that there is no model plan which will provide adequate medical service for each or for any very considerable number of the counties of the United States any more than there is a panacea for the

*Read before the Jefferson County Medical Society, March 4 1935.

physical ills that affect mankind. It requires just as much social study and social diagnosis to find a proper plan for each county as it requires a careful case history and diagnosis before beginning the treatment of a sick individual.

The Association, through its Committee on Medical Economics, is ready to advise with any county in the study and development of plans which will serve its people in the prevention of disease, the maintenance of health, and with curative care in illness. It is evident that any such plan must, at the same time, take into consideration local economic factors in each county, and that all such plans must protect the public welfare by safeguarding to the medical profession the functions of control of medical standards and the continued development of scientific medicine. No plan which is adopted should be allowed to destroy the individual initiative of the physician which is vital to the highest type of medical service.

The Association emphasizes particularly, in those counties or sections having access to hospitals, the absolute necessity for separate provision for the support of hospital facilities and payments for medical service. It should be clearly understood that remuneration for hospital care, for those who need it, is one item of the budget and that the individual, personal, scientific ministrations of the physician, is an entirely separate item in the individual, family and community budget.

During the present year members of the next General Assembly, including half the senators and all of the representatives, will be elected. It is important that members of the medical profession and the public generally shall assure themselves that candidates for the General Assembly understand that the medical profession of Kentucky has accepted the responsibilty for public health and medical services, which has been imposed upon them by the people of the State through succeeding legislatures. It is important that they be pledged not to accept or support the provisions of any state compulsory sickness insurance bill, such as that proposed by the so-called American Association for Social Security, which has been introduced in most state legislatures now in session. Their attention should be called to the fact that this is a vicious, deceptive, dangerous and demoralizing measure. It provides for multiple and insupportable taxation, inordinate costs, extravagant and incompetent administration, and its adoption in Kentucky would inevitably result in social and financial bankruptcy. The medical profession insists that this type of legislation is wholely destructive and has no merit that warrants its support by the people of a Republic.

All the discussion by the professional and lay groups of the needs for a more adequate medical service should result in an aroused consciousness on the part of the profession that it has a distinct obligation to determine the social values that lie, or are implied in this science which our predecessors and we have evolved, and which has such great potential and actual service values. The Association, therefore, believes that it behooves each and every physician to thoroughly equip himself for the practice of preventive medicine in connection with his other professional service so that the people will come to know that we are fully meeting our obvious obligation. Each physician has an individual responsibility to put into effect for his clients, not only all known preventive methods for protection against communicable diseases, but those other known scientific methods that prevent many organic diseases in the productive period of life.

So much for the principles which the profession confidently advance as the cause for its determined opposition to compulsory sickness insurance, Federal, State and local.

As I have said, I was in Washington throughout the hearings before the Ways and Means Committee of the House and the Finance Committee of the Senate on the Social Security legislation, the outlines of which were submitted by the President's Commission on Social Security, the general principles of which were introduced by a special message from the President.

As you know, it has been my privilege to be in Washington from time to time during the sessions of Congress for the past twenty-five years, studying legislation and methods of legislation affecting medical service and public health. I wish every one of you and every American citizen who loves his country could have had enough of this experience to have acquired the profound respect for our National Legislative Body which I have. To the superficial observer who walks into the gallery of the House or Senate and sees and hears the drama of even those historic occasions which happen a few times each session, when every member is on the floor and tension and excitement and great State strategy hold and thrill you, or on those far more frequent occasions when the roll is being tediously called and recalled or when drab and routine debate is being participated in by a relatively small group of members, particularly interested in the special subject under consideration, the sessions of either the House or Senate seem to be confused, futile, and

wasteful. I believe you will be interested and that it is worth your time to consider for a few moments what really happens when a bill is introduced in Congress.

Take this Economic Security Bill, for example. Being an Administration measure, of transcendent importance, it is introduced by the Chairman of the powerful Ways and Means Committee, receives a number—H. R. 4120, is printed and referred to the Ways and Means Committee, which considers all legislation involving the raising of additional revenue. It is the great politico-economic committee of Congress. It is composed of twenty-five of the most experienced and influential members of the House. The Democratic members are elected by the Democratic caucus and select the majority members of all the other committees.

It was interesting that during the six weeks of the hearings on this particular bill that almost every member of the committee was present throughout its sessions. These hearings usually began at ten o'clock in the morning and continued until half-past twelve. Unless matters of tremendous importance demanded the attendance of the members of the committee on the floor of the House, its session was resumed at two and continued until five. The members of the committee must attend to their personal mail, receive callers and make departmental and other contacts in the mornings before the sessions or in the evenings after them. They are frequently kept busy until midnight. Every statement made before the committee is taken by a reporter and each morning each member of the committee is furnished with a printed copy of the entire events of the preceding day. The first two weeks of the hearings were devoted to the members of the President's Cabinet and the economic experts who were presenting the evidence upon which the provisions of the bill were drawn. Following this, any interested citizen who had information on the subject was invited to occupy ten minutes in presenting his case and to submit for printing such data, maps and charts as would support his ideas. Every witness was cross-examined by members of the committee for as long a time as was necessary to secure all the knowledge that witness had that was of value or to expose fallacies in his facts or arguments. On the permanent staff of the committee are expert statisticians, economists, tax experts, legislative draftsmen, and they have available in the Library of Congress every reference to similar social legislation in any country in the world. Translations of such data as is only in foreign languages are made immediately upon the request of any committee by the staff of linguists of the Library of Congress. As an example of the promptness with which such data is assembled, a social security bill was introduced in the Parliament of Canada on January 28th. Copies of this bill and the reports supporting it were in the hands of the members of our Ways and Means Committee on the evening of the 30th. During the previous session of Congress, a sub-committee had held very extensive hearings on social security legislation, and these hearings had been printed and were in the hands of all the members. There was no subject presented by any witness on which one or more members of the committee were not better informed than any of the witnesses.

When you realize that this single bill provides under Title I, an appropriation for old age assistance, with all the plans for its administration; under Title II, for aid to dependent children; under Title III, for earnings taxes by employers and employees; under Title IV, establishes a Social Insurance Board and provides for its duties and support, and for the development and administration of unemployment compensation; under Title V, for annuity certificates; under Title VI, the necessary imposition of taxes for the support of these activities and for the development of an unemployment trust fund; under Title VII, for maternal and child health (under which heading the Federal Aid which has helped to support Dr. Veech's work in our own State Health Department has been financed) and the care of crippled children and aid to child welfare service; under Title VIII, appropriations for public health; you will understand what a complicated and tremendously important study all of this involves. This single bill consists of sixty-three printed pages of about twenty five lines each.

When the hearings and the bill are completed they are all printed with the accompanying tables and charts in a volume similar to the one I am showing you, and copies of these hearings are sent to every member of the House and Senate.

The Committee then went into executive session and for three weeks spent from six to ten hours a day in careful study, first of the principles involved, then of the details of the administrative and revenue producing sections of the measure. Each member of the committee discusses every item and all decisions are made by vote of the committee. Every word is carefully scrutinized by the draftsmen and by the law officers of the

Government, as well as by the astute legal minds of the committee itself.

From time to time intimations are given to the Press by the Chairman or by selected members of the Committee, of tentative decisions in its executive sessions, so that other members of Congress and the public may be kept informed of the progress that is being made. Finally, the draft is completed and the chairman and a small sub-committee draft a report explaining the details of the bill. Then it is reported to the House and goes on the calendar. Usually any such important administrative measure as the Social Security Legislation is considered by the House under a special rule which provides for several days of general debate, control of which is divided between the Chairman of the Ways and Means Committtee and its ranking minority member. Special rules in such cases usually provide that no amendments may be considered except those offered by the committee itself. Such a rule is justified on the ground that legislation of such vast importance should be considered as a whole and should either be passed or rejected. Its thorough consideration by one of the legislative committees of the House, in the manner I have described, assures a bill its perfection in accordance with the political philosophy of the party which controls the administration. As a rule, those opposing the bill are allowed to make one motion to recommit it to the Ways and Means Committee with instructions to bring it in with certain modifications. After this routine measure is voted down, the bill is generally passed with the support of most of the members in control of the House.

Whether considered under a special rule or under the regular rules, bills are considered for amendment by the Committee of the whole House on the State of the Union which generally also has divided time for general debate and then considers each section under the five minute rule. Sections of the bill are read by the clerk. Committee amendments perfecting the section are offered first and adopted as a matter of course. Then germane amendments may be offered by any member and discussions are limited to five minutes for and five minutes against the amendment, and a vote is then taken in the Committee of the Whole. When the Committee of the Whole has finished its consideration of the bill, it recesses and reports the bill as amended to the House. If a separate vote is demanded on any amendment it is called for, then the previous question is moved and the bill as amended is passed or defeated by a voice or aye or no vote.

The bill now goes to the Senate, where it is referred to the Finance Committee. This committee has been holding hearings on practically the same bill which was introduced in the Senate by Senator Wagner, of New York. The hearings were concurrent with those before the Ways and Means Committee in the House and the same witnesses, as a rule, were present.

It seems to me that the House has a distinct advantage in that the members of its important committees are members of only one committee. Due to its smaller membership members of the Senate are usually members of quite a number of committees, many of which meet at the same hours. Consequently, there is a generally smaller attendance at the meetings of the Finance Committee than of the Ways and Means Committtee; but all of the hearings are printed and the Senators have the opportunity of reading such evidence as is of interest or value to them.

When the bill goes to the Senate, the Senate Committee will be ready with its amendments to the House Bill. In the Senate there is no rule limiting debate and any Senator can offer an amendment any time he pleases. Powerful blocs are, because of this, frequently able to secure Senate amendments that have not been as thoroughly considered as they should be. Senators accept this as a lesser evil than the curtailing of debate or the limitation of the offering of amendments and feel rather secure as a rule about it because after the bill has passed the Senate it is referred to a conference committee, consisting of the ranking members of the Ways and Means Committee in the House and the Finance Committee in the Senate, whose members know most about the legislation and they compromise the differences between the two houses and bring in a privilege conference report that is generally the best legislation that can be passed on that particular subject. When a conference report has been adopted by both houses, the bill is enrolled and goes to the President, who either signs or vetoes it.

This identical procedure takes place on every bill that receives consideration by committees. Of course, hundreds of bills are introduced each session which are never called up. Many of these are duplicates of bills that are considered and many others are introduced at the request of friends of Congressmen who realize that they cannot be seriously considered.

It is of interest in Kentucky that our Sena-

tors are on the most important of the Senate Committees and are two of the most influential members of that august body.

In the House, Messrs. Gregory and Robsion are on the Judiciary; Cary and O'Neal, on Appropriations; Carden, on Agriculture; Spence, on Banking and Currency; Chapman, on Interstate and Foreign Commerce; May, on Military Affairs; and Vinson, on the Ways and Means Committee. These are all powerful, exclusive committees and no other State is in a position to do more, through its Congressmen, to accomplish more for the common welfare.

I have taken your time to tell you these details because I think every American citizen should understand them. Knowledge of the methods by which legislation is passed by the Federal Government will increase our respect for that august body, which is essential to the preservation of orderly government and of liberty itself. When one reads the newspaper accounts of the sensational and vapid utterances of a demagogue, or even listens to the tedious meanderings of some thoroughly honest but tiresome speaker on the floor it is important for him to realize that while this apparent waste of time is taking place the real serious work of Congress is being done in its hardest working committees. To one who knows, even an apparent disorder, which so frequently characterizes procedures on the floor, has through it all, nevertheless, a system and routine that usage has made practical and useful in the consideration of legislation for the welfare of all the people of the United States.

It is also important to remember that rank on committtees is largely due to seniority in service. For this reason, intelligent Congressional Districts and states reelect competent, effective senators and representatives from term to term so they may qualify themselves as statesmen for the great profession of Federal Legislation and so they may be sufficiently influential to really help guide the affairs and destiny of the Nation.

It is well for our people to remember that the Congress is a coordinate branch of the Federal government. The members of the majority party are members of the Administration and not merely its satellites.

In a Congress like the present one, elected because of the overwhelming confidence of the people of the country in an outstanding President. there are necessarily many inexperienced men in the majority and the effectiveness of the minority is lessened because it has been deprived of many of its experienced legislators. In the history of our country such leaders as the President have only appeared at crises in our history. Inexperienced legislators frequently feel irked at the orderly procedure provided by the rules, customs and precedents of the House and Senate. Some such men frequently will attempt to have bills or procedures adopted which are not acceptable to the Administration or to the leadership of the House and Senate. Unfortunately, any such proceedings there are generally assisted by the minority, which sometimes forgets its principles in a perfectly human but quite childish desire to bring the party in control at that particular time into ridicule or contempt. These temporary upsets are siezed upon by the sensational press, and people who do not know frequently find themselves confused by what they read from the press commentaries in Washington. Revolutionists and agitators generally have but little influence on the orderly procedure of Congress. Temporarily they may make nuisances of themselves. The sane and sensible members of both parties hold them in contempt even when they use them temporarily; and while they may confuse the public, they rarely seriously affect legislation.

No man who is familiar with the procedures and precedents of the Federal Congress will ever feel any doubt about either its capacity or its integrity in protecting the best interest of all the people.

I have brought this to your attention at some length in an attempt to indicate to you the futility of sending form telegrams asking members to vote for or against this or that bill. Such telegrams are solicited and encouraged by the professional lobbyists for interests and blocs and by the telegraph companies, and they come to the influential members of the House and Senate by the hundreds, or even thousands. The members send them off in bundles to the committee considering that particular legislation, and unless too numerous, return a form reply, and eventually they arrive at the special committees on the disposition of useless papers, having exercised practically no influence on sane and serious members of the Congress. Reasonable and reasoning telegrams and letters, pointed and brief as the particular subject will permit, addressed to them personally are highly valued, always receive a courteous reply and are seriously considered. Resolutions by learned societies or legislatures are printed in the Record and referred to the appropriate committees, and that is that. Fortunately for our country Congress is moved more by reason than by emotion, and it would be well for all of our citizens if they knew it, and helped to secure wise legislation more by reason and less by pressure.

A PRELIMINARY REPORT ON THE USE OF MERTHIOLATE SOLUTION IN THE TREATMENT OF TUBERCULOUS EMPYEMA*

T. A. Woodson, M. D. and
A. B. Mullen, M. D.
Louisville.

For the past year and a half, Merthiolate Solution (Sodium Ethyl Mercurithiosalicylate) has been used with favorable results at the Waverly Hills Sanitorium in treatment of tuberculous empyema occurring as a complication to Artificial Pneumothorax. We realize that the number of cases in this study is comparatively small, but we feel that our results justify this preliminary report as to the value of the drug as a therapeutic agent. Further work is being done along this line.

Eighteen patients with pyopneumothorax have been treated. All of the cases, except two, have proved to be tuberculous empyema by laboratory methods, either by direct smear for the tubercle bacillus, or by guinea pig inoculation.

In using the Merthiolate Solution we have been able to clear up the empyema in a number of these cases and at the same time have maintained the Artificial Pneumothorax Those on treatment at the present time show a favorable tendency toward clearing.

The time required for complete clearing of the empyema was three to seven months and in these cases it has not recurred except in one terminal case.

The procedure has been to remove the pus thoroughly from the pleural cavity by direct asipration and irrigate at weekly intervals with Merthiolate Solution 1-10.000 or 1-5.000 in normal saline, until the return is clear. Twenty to one hundred cubic centimeters of the solution are left in the pleural cavity and the intrapleural pressures are equalized following the treatment. However, as much as two to three hundred cubic centimeters of the solution have been left in the pleural cavity in some instances. In five of the cases concentration of the solution was increased to 1-2,500 with only one reaction in which an uneventful recovery was made.

The following is a brief summary of the results in the eighteen cases that have been treated:

C. G., age 43. F. A. B. Bilaterial disease. Sputum positive, Gaffky 6. Initial Artificial Pneumothorax June 6, 1933. Developed fluid November, 1933. On December 9, 1933, 500 c. c. of straw-colored fluid were aspirated because of respiratory embarrassment. On December 21, 1933, 550 c. c. of straw-colored fluid were aspirated. Cultures negative. No tubercle bacillus found. Fluid became purulent March 1, 1934 when 400 c. c. of thick yellowish fluid were aspirated. Guinea pig inoculation positive for tubercle bacillus. Merthiolate irrigations and treatments were started. Temperature ranged from 98 to 102.4, pulse 80 to 90, and returned to normal limits in eight days. The character of the pus changed from a thick yellowish fluid to a thin one. Patient had six irrigations and treatments with Merthiolate solution 1-5,000. On May 26, 1934 there was no pus found in the pleural cavity. Fluid has not reoccurred and the Artificial Pneumothorax has been maintained.

H. W., age 28. F. A. B. Sputum negative. Admitted to second floor after oleothorax treatments had been discontinued for tuberculous empyema. Temperatures ranged from 98 to 103, pulse 90 to 160. Patient had six draining sinuses in chest wall, one anteriorly and five posteriorly. Patient has been on Merthiolate irrigations and treatments at two week intervals since July 13, 1933. 250 c. c. of thick greenish pus were aspirated and Merthiolate solution 1-5,000 used. The pus was positive on smear for tubercle bacillus and cultures were positive for staphylococci infection. Guinea pig was positive for tubercle bacillus. The temperature ranged from 98 to 103 and pulse 90 to 160 during July, 1933. Since August, 1933 temperature and pulse have been within normal limits. The character of the pus changed from a greenish material to a thin greenish fluid. The sinuses showed signs of clearing up and in January, 1934 the last one healed. The cultures from the fluid were negative. Guinea pig inoculation positive for tubercle bacillus During the treatments the patient gained weight and the general condition improved. At present she is still on treatments and 50 to 80 c. c. of thin greenish pus are obtained. Urinalysis negative.

M. N., age 35. F. A. A. Bilaterial disease. Sputum, Gaffky 7. Initial Artificial Pneumothorax March 14, 1931. Fluid developed August 3, 1931, 325 c. c. of straw-colored fluid were aspirated because patient was complaining of respiratory embarrassment. Cultures negative. Smears negative for tubercle bacillus. On June 26, 1932, 200 c. c. of turbid fluid were aspirated. Smears were positive for tubercle bacillus, Gaffky 4. On December 19, 1932, 300 c. c. of fluid were aspirated and on January 30, 1933, 400 c. c. of thick creamy pus were aspirated. Temperature ranged from 97 to 100, pulse 80 to 90. Patient was put on Merthiolate solution 1-5,000 and after four irrigations and treatments the pus cleared and there has been no

*Read before the Jefferson County Medical Society.

recurrencee. Artificial Pneumothorax has been maintained.

A. M., age 34. F. A. B. Bilateral disease. Sputum positive, Gaffky 8. Artificial Pneumothorax started August, 1932. Fluid developed December 10, 1933. On February 24, 1933, 350 c. c. of greenish purulent fluid were aspirated. Temperature ranged from 97.8 to 101, pulse 80 to 110. Cultures and smears were negative. Guinea pig inoculation positive for tubercle bacillus. Patient put on Merthiolate irrigations and treatments 1-5,000 solution at two week intervals. The character of the fluid changed from a greenish pus to a thin one. On September 14, 1933 the fluid became golden brown, serous in character and then cleared. Patient has been free of fluid in the pleural cavity since September, 1933, and Artificial Pneumothorax has been maintained. During the treatments the patient's general condition improved greatly. Patient has been discharged from the sanatorium and is returning for Artificial Pneumothorax refills.

A. C., age 43. F. A. B. Bilateral disease. Sputum positive, Gaffky 5. Admitted July 11, 1932. Fluid developed February 6, 1933. Temperature and pulse were within normal limits. Because of respiratory embarrassment, 1,100 c. c. of fluid were aspirated. Merthiolate irrigations 1-10,000 started. The fluid was straw-colored and showed pus cells. Smear was negative. Guinea pig inoculation was not done. Patient had eight treatments with Merthiolate solution 1-5,000 at intervals ten days to two weeks. Fluid disappeared, artificial pneumothorax was maintained and patient was discharged October 28, 1933 with negative sputum and no recurrence of fluid.

C. B., age 35. F. A. C. Bilateral disease, exudative type. Positive sputum, Gaffky 8. Developed fluid on February 10, 1933. Temperature ranged from 97 to 102.8 and pulse 80 to 128. 475 c. c. of turbid fluid which became purulent were aspirated. Guinea pig inoculation positive. Patient was put on Merthiolate treatments at ten days intervals 1-5,000 solution. Fluid disappeared in the chest in four months time. Recurred in one month's time. 100 c. c. of purulent fluid were aspirated and after four treatments disappeared for four months when 50 c. c. of pus were obtained. Patient was terminal case and autopsy showed 100 c. c. of fluid present in the pleural cavity.

E. F., age 24. F. A. C. Bilateral disease. Sputum positive, Gaffky 8. Admitted July 5, 1929. Developed fluid June 10, 1932. Temperature ranged from 97. 6 to 103 and pulse 80 to 130. Was treated with Acriflavene, Gentian Violet, Methylene Blue. Fluid still remained purulent. On February 9, 1933, 250 c. c. of pus were removed. Merthiolate irrigations and treatments were started. Smear positive for tubercle bacillus Patient had twenty-two treatments and fluid was reduced to about 25 c. c of thin white fluid. Patient was terminal case and died 1934.

J. S., age 30. F. A. B. Bilateral disease. On December 9, 1933, following respiratory embarrassment, 750 c. c. of thick creamy purulent fluid were aspirated from chest. Temperature ranged from 97.8 to 103 and pulse 88 to 130. Smear Gaffky 4. The fluid from the chest showed on smear gram positive and gram negative cocci. No growth on blood agar culture. No anerobes found. Patient on treatments of one week intervals. Merthiolate solution 1-5,000. Cultures negative. Seventeen treatments and pus was reduced to 50 c. c of thin white fluid. Patient died in 1934.

M. H., age 34. F. A. B Bilateral disease. Sputum positive, Gaffky 8. Initial Artificial Pneumothorax September 22, 1932. Developed fluid in May, 1933, and on August 15, 1933, 1,200 c. c. of cloudy fluid were aspirated. Numerous pus cells present. Culture negative, smear negative. Temperature ranged from 98.8 to 103, pulse 72 to 100. Merthiolate irrigations started. Guinea pig positive for tubercle bacillus. Cultures showed staphylococci present. Three weeks later cultures were negative for staphylococci infection. Pulse and temperature returned to normal in two months' time and have remained within normal limits. On December 1, 1933 treatments were stopped due to the fact that the lung in the apex was adherent and there appeared to be some reexpansion, and the staff recommended that oleothorax treatments be substituted. Patient was improved. About 80 c. c. of thin greenish material were present at the last treatment.

D. B., age 22. M. A. A. Positive sputum. Admitted January 30, 1933. Developed fluid October, 1933. Temperature ranged from 99 to 100 and pulse 80 to 90. Gaffky negative. Became purulent January, 1934. On February 13, 1934, Gaffky 1. 600 c. c. of greenish pus were aspirated. Patient was put on Merthiolate treatments 1-10,000. Six treatments with Merthiolate solution ranging from 1-5,000 to 1-2,500 were given. No fluid found in pleural cavity on May 1. 1934. Guinea pig inoculation positive. No recurrence of fluid.

T. F., age 19. M. A. A., bilateral disease. Sputum positive. Admitted September 12, 1932. Fluid developed, became purulent January, 1934. Temperature ranged from

98 to 103 and pulse from 90 to 110. Gaffky 6 and 7. On February 15, 1934, 250 c. c. of fluid were aspirated from chest. Merthiolate treatments 1-10,000 solution started on May 31, 1934. 85 c. c. of pus were obtained from chest. Afebrile since April. General condition of patient greatly improved. This was malignant type of empyema. Patient was running high temperature at the time the treatments were begun.

A. M., age 38. F. A. B. Bilateral disease. Sputum positive. Admitted December, 1932. Developed fluid April, 1933. Temperature and pulse remained within normal limits. Smear and guinea pig positive for tubercle bacillus. Became purulent November, 1933. Merthiolate treatments were begun. 400 c. c. of pus were aspirated from the chest. Chest irrigated with 1-10,000 Merthiolate solution. After thirteen treatments 45 c. c. of thin pus still obtained from the chest.

M. P., age 30. F. A. B. Bilateral disease. Sputum positive. Admitted March, 1931. Fluid developed June, 1933. Temperature ranged from 98 to 100 and pulse 80 to 90. Began Merthiolate solution November, 1933, 1-10,000 strength. Weekly aspirations 1-5-000. On March 24, 1934, 1-2,500 strength. Average amount of pus at the present time is about 50 c. c.

C. A., age 33. F. A. A. Bilateral disease. Sputum positive. Admitted April 22, 1931. Fluid developed June, 1933. Gaffky negative. Temperature ranged from 99 to 100 and pulse from 88 to 96. Fluid became purulent January 30, 1934. Guinea pig positive. Smear positive. Merthiolate solution started February 22, 1934, 1-10,000 strength. Weekly irrigations 1-5,000. After twelve treatments there was a very small amount of fluid in the costo-phrenic angle. Afebrile course since treatments started.

B. W., age 23. M. A. A. Positive sputum. Initial Pneumothorax September 12, 1931. Developed fluid January 19, 1933 Fluid has remained in the chest cavity for the past eighteen months. On June 1, 1934, fluid became purulent and was positive for tubercle bacillus on direct smear. Patient was put on Merthiolate irrigations and treatments 1-5,000. Pulse and temperature were within normal limits. Patient has been on treatment at two week infervals. At the present time there is a small amount in the costo-phrenic angle. General condition good.

C. M., age 24. M. A. B. Positive sputum. Initial Artificial Pneumothorax October 25, 1932. Developed fluid April, 1933. Patient was put on Merthiolate June 1, 1934, and has been having treatments at weekly intervals. Guinea pig inoculation was positive for tubercle bacillus. At the present time there is no fluid in the pleural cavity.

T. T., age 26. F. A. B. Positive sputum. Was admitted to the sanatorium with pleurisy with effusion. In February, 1934, aspiration and air replacement were done. Fluid was aspirated three times. Was serosanguineous in character and negative for tubercle bacillus on smear. Recurred June 1, 1934, became purulent. Guinea pig inoculation was positive for tubercle bacillus. Patient was put on Merthiolate irrigations and treatments 1-5,000 solution. Temperature ranged from 98 to 100.8, pulse from 95 to 110. The pulse and temperature have returned to normal limits. Clinical improvement has been marked. There was still some fluid present in the pleural cavity at the last treatment.

M. H., age 24. Admitted July 3, 1934. Diagnosis on admission was pleurisy with effusion. Temperature ranged from 98.6 to 103.4, pulse 80 to 120, respiration 20 to 28. Sputum negative. 1,750 c. c. of greenish purulent fluid were aspirated from chest and replaced with 500 c. c. of air. Guinea pig inoculation done. Cultures negative for tubercle bacillus. Smear negative for tubercle bacillus. Cultures were positive for streptococcus viridans. Long chain of cocci was seen on gram stain. Diagnosis of streptococcus empyema made. On July 10, 1934, 1,350 c. c. of greenish purulent fluid were removed and irrigated with 1-5,000 Merthiolate solution until return was clear. Replaced with air. Smears were negative for tubercle bacillus. Cultures showed no growth on blood agar. Patient was put on irrigations with Merthiolate solution 1-5,000. The character of the pus changed to a brown solution and became thinner in appearance. Strength of the solution was increased to 1-3,500 and patient was kept on irrigations and treatments. The amount of pus diminished and since August 20, 1934 patient has been on 1-2,500 Merthiolate solution twice a week and at the present time the lung has reexpanded considerably and about 100 c. c. of pus is obtained on aspiration. Patient's pulse and temperature have been within normal limits following her first treatment with Merthiolate on July 10, 1934. She has gained weight and her clinical course and general condition have greatly improved. The cultures have been consistently negative for streptococcus since using the Merthiolate solution. Guinea pig inoculation was negative for tubercle bacillus.

Summary and Conclusions

Seventeen tuberculous patients with pyopneumothorax and one non-tuberculous streptococcic empyema have been treated

with Merthiolate solution. Favorable results have been obtained in fourteen (82.4%) of the tuberculous cases. Six have completely cleared (35.3%) and eight (47.1%) are showing definite improvement at the present time. Three cases considered hopeless at the beginning of treatment have died (17.6%). In computing percentages the streptococcus empyema case is not included.

The fluid in fourteen of the cases was frank pus, creamy or greenish in appearance. In the remaining three cases, it was definitely turbid. Soon after starting the treatments, the character of the pus became definitely thin and assumed a light brownish color before finally disappearing.

In three cases which were secondarily infected with staphylococci the cultures completely cleared in three to four weeks. The results in these cases together with the remarkable results in the streptococcus empyema case suggest the use of Merthiolate to great advantage in non-tuberculous empyemas.

No contraindications to the use of Merthiolate solution have been found. On the other hand symptoms and general condition of the patients have markedly improved in all of the cases in this series with the exception of the three terminal cases already mentioned.

A fuller report will be published at a later date after more patients have been given the benefit of this form of therapy.

Eosinophilia in Bacterial Reaction Sites.— Touart and his associates present the data and results of an investigation into the incidence of local eosinophilia at the sites of early and late skin reactions following the intradermal injection of bacterial substances in twenty-two subjects. They observed that, at such reaction sites, an increase in the percentage of eosinophil cells in the fluid contents over that found in normal skin was present in most of the patients examined. They conclude that, should the observations of their small series of cases be corroborated by future investigation, eosinophilia will be recognized as being a regular feature of positive early and late reactions to intradermal injections of bacterial products. So far as eosinophilia indicates the presence of hypersensitiveness, it would appear that the early wheal and the late reaction are but two manifestations of the same underlying condition; namely, bacterial hypersensitiveness.

A CASE OF TETANUS*

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On August 19, 1934, Miss L., aged seventeen years, inflicted a stab wound of right foot by stepping on a rusty nail.

Very little attention was given the primary injury. In about four days, patient had a chill, and complained of aches and pains in muscles, headache, general lassitude, and some stiffness of muscles of back, of neck, face, and jaws. Members of her family noticed that she was making grimaces of which she was not aware.

Patient was seen September 11th, with all of the above symptoms of acute tetanus intensified. Her jaws were all but locked; it being barely possible to pass an ordinary tongue blade between her teeth. Muscles of back were quite rigid. She was unable to bend her head forward. A diagnosis of subacute tetanus was very apparent. The seat of primary injury was given appropriate treatment. The following day, September 12th, patient was given twenty thousand units of antitetanic serum. General quiet was maintained in a darkened room.

Antitetanic serum was given in twenty thousand unit doses about every twenty-four hours until one-hundred twenty-thousand units had been given, at the expiration of which time there was a general amelioration of symptoms. The most noticeable effect of the toxemia was exerted on the circulatory system. This was manifested by a very rapid weak pulse, and a loud systolic murmur, all of which cleared up after the sixth dose of antitoxin. Although there was a general, steady improvement in all the symptoms, the spasmodic contractions of muscles of the back continued, although not so severe. There was also a continuance of the board-like rigidity of abdominal muscles. So, in view of the possibility of a retention of the tetanus toxin in the tissues, the seventh dose of antitoxin was given, making a total of one-hundred forty-thousand units. There was a very prompt subsidence of muscular spasm after this. It might be of interest to state that after the second dose of antitetanic serum there developed a rather intractable bloody diarrhea which lasted for about three days. This, however, was controlled by one-half grain doses of morphia, which also served to control muscular spasms, and give patient certain degree of rest. Phenobarbital in three grain doses was also given for its sedative

*Read before the Adair County Medical Society.

and hypnotic effect, which was very satisfactory.

Antitetanic serum was given intramuscularly and intravenously alternately. We had a rather pronounced serum rash with no untoward results.

Feeding was a rather difficult problem for several days, owning to inability to get food into the mouth. Only a fluid diet could be taken, and that with much difficulty. Deglutition became almost impossible, owing to the crippled condition of that particular group of muscles. Defecation and urination were seriously interfered with, because of spasmodic contractions of sphincter muscles. This condition, as stated above, was controlled fairly well by the use of morphine and phenobarbital.

Patient was discharged October 5th, and has made an uneventful recovery.

A REVIEW OF TYPHOID VACCINATION*

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Typhoid vaccination has been generally resorted to for twenty-five years. During that time typhoid has been reduced from the most prevalent disease in the state to one that is least prevalent. The same is true of the entire United States. From 1906 to 1910 Louisville had approximately 53 persons per 100,000 population die annually from typhoid. In 1932 the death rate was approximately two per 100,000. From 1906 to 1910 Pittsburg had approximately sixty-five persons per 100,000 die annually from typhoid. In 1933 it had only one death from typhoid in a population of 700,000. Thirty years ago the annual cost of typhoid in Kentucky was several million dollars. Today the annual cost is insignificant in comparison. No longer does the average city or rural resident have to spend his surplus cash for the treatment of typhoid in his family. This change has come about through improved and more generalized sanitary measures and through state-wide typhoid vaccination.

Typhoid vaccine was developed in 1896 and was introduced into actual practice in the same year. Its first army use was in British soldiers in India in 1898. In 1900 it was administered to 100,000 British soldiers engaged in the Boer War. First results did not come up to expectations. It is now known that the vaccine used was impotent due to overheating. That factor was not understood then and the poor results caused the vaccine to be neglected for a time. The idea was good, however, and immunologists continued to experiment with it until its potency was assured and its protective action demonstrated. Since then it has been used routinely in some armies and navies, in public health services, and in civilian practice.

The vaccine most generally used has been the TAB or triple vaccine in a concentration of 1,000 million typhoid organisms, 500 million paratyphoid A organisms and 500 million paratyphoid B organisms per cubic centimeter, given in three or four doses subcutaneously at five to ten day intervals, with one-half cubic centimeter as the first dose and one cubic centimeter as each succeeding dose. Those are adult doses. For persons under 20 years of age 160 pounds is taken as the average adult weight and the dose is computed by giving one minim per each 20 pounds. Above the age of twenty the full dose is given regardless of weight.

The Kentucky State Board of Health typhoid vaccine is composed only of typhoid organisms, containing 2,000 million per cubic centimeter. The paratyphoid fractions have been discarded by the army and navy and public health services for reasons which will be mentioned later.

Typhoid vaccine has been administered intradermally, subcutaneously, intramuscularly, intravenously and orally. The subcutaneous method is used generally. Published data indicate, however, that equally good results may be obtained when the vaccine is administered by any of the other routes. This method of administration is most practical because (1) the dosage is standardized, (2) it is administered by the doctor or nurse and thus is given in known amount, (3) it is easy to reach the subcutaneous space with the needle whether the person is fat or thin, (4) the vaccine is slowly absorbed and thus causes less reaction than when given intramuscularly or intravenously.

Data on Various Methods of Administration

Subcutaneous Vaccination

Typhoid vaccine has been administered to millions of persons, chiefly by the subcutaneous route by hypodermic injection. The literature indicates that this route produces a satisfactory and reliable immunity in 80 per cent of cases. Probably 15 per cent of the remaining 20 per cent will develop incomplete immunity while 5 per cent will develop no immunity at all. Thus, out of every 100 persons to whom it is administered, 80 will develop satisfactory immunity, 15 will develop incomplete immunity and 5 will develop no immunity. That means that out of every 100 vaccinated, 20 will still be suscep-

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tible to the disease in some degree. That fact should be generally known because as it is the general public expects typhoid vaccination to be 100 per cent effective, and when a person develops the disease after he has been vaccinated against it, it has a tendency to cause the public to lose faith in its protective value. The same general results are obtained also from the intramuscular or intravenous use of the vaccine.

Intradermal Vaccination

In 1931 Dr. Louis Tuft of Philadelphia, investigated the use of the TAB vaccine by the intradermal route, finding that it was as satisfactory as any other injection route and that it required a much smaller dosage. Instead of three doses of one-half, one and one cubic centimeter he obtained equal results with four doses of 0.05 cc., 0.1 cc., 0.15 cc., and 0.2 cc. He checked and proved his results by measuring the agglutinins in the blood. Since then he has used this method routinely. It is not suitable for general use in persons of all ages, however, because it requires a more careful and skillful technique than subcutaneous injection. Since speed in school vaccination is essential the intradermal method would not be generally satisfactory because of the number to be given and because many children are not sufficiently co-operative.

Oral Vaccination

In 1904 Dr. Almroth E. Wright first investigated the immunity producing effect of typhoid vaccine by mouth. He tried it on seven persons with good results in three and decidedly poor results in four. He estimated the immunity produced by determining the bactericidal power of the blood, it being markedly increased in three of his subjects.

Further work was done with an oral vaccine in 1911 by Metchnikoff and Besredka who fed both a typhoid vaccine and living typhoid organisms to chimpanzees. Later guinea pigs and rabbits were used. (Rabbits are now chiefly used for typhoid experimentation because they react much like humans). The results on these animals enabled an effective oral vaccine to be produced for human use. It was first tried on a large scale in 1922 when, during an epidemic of typhoid at a military school in France, it was administered to 268 students. It proved effective. Later, in other places, other foreign investigators used it to immunize several thousand persons and again proved its effectiveness in controlling epidemics and protecting healthy humans. In 1927, Simpson used oral typhoid vaccine during an epidemic in a Washington feeble-minded institute and brought about its subsidence within a short time.

Besredka is due the credit for developing the most satisfactory oral vaccine and method of administration. He used the vaccine in connection with bile, either administering both together or giving the bile several hours before. Apparently bile was chosen because typhoid organisms thrive in it—the gall bladder being the usual focus of infection in typhoid carriers. Bile seems to render the intestine more receptive to the action of typhoid vaccine. The plain vaccine has also been shown to be effective, but slightly less so than when with bile. "Bilivaccin" is a name now applied to the vaccine with bile for oral use. It is supplied in tablet or pill form by some biological manufacturing houses.

Cluver in 1929 reported on the use of an oral vaccine in several thousand persons, especially natives employed in the South African gold and diamond mines He controlled epidemics with it and likewise improved the general health in numerous districts. The vaccine used was composed of the typhoid and paratyphoid A and B organisms, each dose containing approximately 45,000 million organisms. It was used both in liquid and pill forms with bile, according to the method of Besredka. Cluver concluded generally that the results from oral vaccination are as good as those from subcutaneous vaccination, that oral vaccination establishes immunity more quickly, and that there are no after effects such as chill, fever, and malaise.

In 1929 Hoffstadt and Thompson of the University of Washington used an oral vaccine on 93 university students varying in age from 19 to 40 years. The vaccine contained 1,000 million typhoid organisms, seven million paratyphoid A organisms and seven million paratyphoid B organisms per cubic centimeter. They gave a dosage of one cubic centimeter on three consecutive mornings one-half hour before breakfast. Results were checked by testing for agglutinins in the blood, 88.5 per cent showing agglutinins for typhoid. It is important to note that only 11.5 per cent had no agglutinins and thus apparently developed no immunity.

Tuft, Yagle and Rogers in 1932 reported the use of the Besredka vaccine by mouth in 38 persons, stating that it produced practically no antibodes and thus apparently no immunity. Some other investigators have reported similar unfavorable results.

Owing to these exactly opposite results the general effectiveness of typhoid vaccine by mouth is still a question. It is so much a question that vaccination by mouth can not be considered reliable or satisfactory. Vaccines for oral use have not been accepted by the Council on Pharmacy and Chemistry of

the American Medical Association and are not advocated for general use. The injection method, preferably by the subcutaneous route, is still the method of choice.

Duration of Immunity

The agglutinins that develop in the blood following the administration of typhoid vaccine (or following an attack of typhoid fever) afford the only actual laboratory measurement of the immunity produced. The amount in which they develop must be taken as an index of the immunity produced; that is, if they are plentiful, and measured by titration of the blood serum, immunity is considered to be complete; if they are less plentiful in any degree that makes the immunity correspondingly less complete. The degree, of course, will vary with different individuals. Some persons, however, seem to have some immunity even after the agglutinins have disappeared, so there may be some other unknown factor in the measurement of immunity. And that may be nothing more than the trigger stimulation of immunity production in case of ingestion of the organism; in other words, a body immunity process, all primed for action in case of danger, which has resulted from the previous stimulation by the vaccine.

Investigators have obtained different results of testing for agglutinins in the blood following vaccination.

In 88 persons, Tuft, Yagle and Rogers, using the usual TAB vaccine by hypodermic injection, found that agglutinins began to appear within a week, increased regularly to reach a maximum in from six weeks to three months, then gradually decreased in a period from six months to one year. Fresh vaccine (that is, within 30 days from date of preparation) gave best results. Results were less with older vaccines.

Hoffstadt and Thompson found that agglutinins began to appear within a week after oral vaccination and that the maximum agglutination (and thus the highest peak of measurable immunity) was reached in from four to five weeks after oral vaccination. Thus the peak of immunity was reached more quickly than with subcutaneous vaccination. They reported, however, that the volume of agglutinins was never as great as that reported for subcutaneous vaccination at its highest peak, which means that the immunity produced by oral vaccination is not as complete or effective as that produced by subcutaneous vaccination.

Hoffstadt and Thompson found the agglutinins, in most persons, to be markedly reduced at the end of nine months after vaccination; although in some they found agglutinins present after two years.

Dakeyne in 1915 from a study on British soldiers reported that the agglutinins disappeared after eight months. Wade and McDaniels in 1915 found the agglutinins to be markedly decreased six months after vaccination. Moon in 1914 found that agglutinins persisted after two years. Simpson who has already been referred to as having given vaccine by mouth to control an epidemic in a feeble-minded institute in Washington, found that the vaccinated persons were still protected 18 months later.

The duration of immunity quite probably depends, in part, on the strain of typhoid organism used in the vaccine administered. Some strains are more stimulative of immunity production than others. For instance, the literature suggests that the more virulent strains produce a more complete and satisfactory immunity.

The general trend, of course, has been to administer the vaccine by subcutaneous injection routinely every two or three years. The latter interval was suggested in the Journal of the American Medical Association no later than July 7, 1934 although the reminder was made that the protection given by any form of vaccination against typhoid cannot be stated to be absolute and permanent. The Journal stated further, however, that when a protected person does develop typhoid, as in case of an overwhelming infection, the disease is likely to be mild.

The Journal of the American Medical Association of December 30, 1933, carried the interesting information that every sailor in the Japanese Navy is vaccinated twice a year against typhoid. That and much other data on typhoid vaccination is given in the letter from Japan in The Journal of that date.

The data in general indicate that typhoid vaccination should be given at least every two years. Some physicians advocate it annually as a general body tonic, believing it not only stimulates immunity to typhoid but serves to increase the general resistance of the body. There is also a general opinion that several vaccinations at intervals of one or two years will confer a permanent immunity to typhoid. That opinion at present is an open question. Belief in it is strengthened by the apparent fact that repeated vaccination stimulates increased production of agglutinins over all previous vaccinations. Some investigators also say that is not true. Thus, to be on the safe side, we must still urge that typhoid vaccination be taken regularly every two or three years throughout life.

Factors Which Account For Failure to Develop Immunity From Typhoid Vaccination

It has been previously stated that approximately 80 of every 100 persons vaccinated against typhoid will develop satisfactory immunity while 20 will develop none or an incomplete immunity. The production of immunity depends, first, on the person's immunity producing power — his biological resources. Some persons seem to have no immunity producing power at all and are subject to every illness or disease that comes along. Second, it depends on the potency—that is, the immunity stimulating power—of the vaccine. If it is impotent due to the strain of organism used or to improper method of preparation it can not produce immunity even though the person's biological resources are capable.

Each of these factors are responsible for some failures to produce immunity. Above all, we can not expect a person in poor physical condition—that is, undernourished or with some active focus of infection—to have normal immunity producing power.

There are numerous strains of the typhoid organism. Generally they are classed as of two types, namely: smooth and rough. The smooth type has typical cultural characteristics and a typical virulence for susceptible animals. The rough type is lower in virulence and differs in its cultural characteristics. Research reported by several men, and considered editorially in the Journal of the American Medical Association of August 4, 1934, seems to indicate that in humans the smooth strains are more reliable for producing satisfactory immunity. Tests on the strains used by some biological houses for the commercial preparation of typhoid vaccine showed them to be of the rough type and thus probably not good immunity producers.

To make typhoid vaccination more nearly 100 per cent effective it will first be necessary to put its recipients in normal physical condition, and second, to be sure that the vaccine used is potent, comparatively fresh, and, of course, administerd in sufficient dosage.

General Data on the Value of Typhoid Vaccination

During the War Between the States there were 111 cases of typhoid and similar fever per 1,000 soldiers.

During the Spanish-American War there were 141 cases of typhoid per 1,000 soldiers.

During the World War there was only one case per 3,000 soldiers in the United States Army. It was the first war in which the United States took part in which the usual war diseases caused fewer deaths than bullets. The low typhoid rate in the U. S. Army was due strictly to sanitation and vaccination.

During the World War

France had 8,500,000 men under arms with 125,000 cases of typhoid and paratyphoid.

Italy had 5,500,000 men under arms with 65,000 cases;

Belgium had 267,000 men under arms with 3,200 cases;

Germany had 11,000,000 men under arms with 112,000 cases;

Austria had 7,800,000 men under arms with 171,000 cases;

Great Britain had 4,970,000 men under arms with 20,149 cases; while the United States had 4,000,000 men under arms with only 1,500 cases of typhoid and paratyphoid. The United States Army was the only one protected against these diseases by vaccination.

Typhoid in the U. S. Navy and Marine Corps

In 1900 the U. S. Navy had 23,756 sailors and marines with 175 cases of typhoid;

In 1910 the U. S. Navy had 58,691 sailors and marines with 192 cases; and in 1911 the U. S. Navy had 61,399 sailors and marines with 222 cases.

Compulsory vaccination was begun in February 1912 and has been continued since. The results follow:

In 1912 with 61,897 sailors and marines there were 57 cases of typhoid;

In 1913 with 65,926 sailors and marines there were 23 cases;

In 1923 with 116,565 sailors and marines there were 14 cases;

In 1926 with 113,756 sailors and marines there were only 4 cases of typhoid.

These figures show the value of typhoid vaccination without further comment. From one of the commonest diseases in the U. S. Navy 25 years ago it has now become almost a rarity.

Typhoid and the two paratyphoid fevers are clinically the same. Laboratory examinations have shown that 10 per cent of typhoid is really paratyphoid. Thus in 1917 the U. S. Navy and Army began using a triple vaccine of typhoid and paratyphoid A and B organism known as TAB vaccine. The U. S. Navy discontinued the TAB vaccine in favor of plain typhoid vaccine in 1924. Since then it has used a vaccine containing 1,000 million typhoid organisms per cubic centimeter.

In 1928 the U. S. Army discarded the paratyphoid B fraction; on August 1, 1934 it discarded the paratyphoid A fraction. These fractions were discarded owing to the very

low prevalence of paratyphoid cases and because the severity of vaccination reactions seemed to be due chiefly to the paratyphoid organisms. This is true in civilian life as well as in government life. The Army now uses plain typhoid vaccine of 2,000 million typhoid organisms per cubic centimeter in a dosage of one - half c. c., and one c. c. It will be noted that this is the same strength and dosage as the Kentucky State Board of Health vaccine.

The typhoid incidence and death rates throughout the United States are still falling. For various reasons they have dropped gradually. The typhoid mortality rate in American cities of more than 100,000 population is now less than half what it was only seven years ago. A goal to work for in the next twenty-five years is to eradicate it completely.

MALIGNANT TUMORS OF THE THORAX AND UPPER ABDOMEN*

D. Y. Keith, M. D.

Louisville.

Tumors of the thorax and upper abdomen are rarely discussed together. We are doing so as they are evidently the same disease microscopically, are amenable to the same treatment, namely radiotherapy. Malignant lymphoma or lympho-blastoma attack primarily the lymphatic system, comprising lympho-sarcoma, lympho-granuloma (Hodgkins' disease) and the various types of leukemia.

When Hodgkins, in 1832, described the disease he probably included the entire group. Virchow, in 1842, separated the leukemias and in 1864 he separated the lympho-sarcomas. Lympho-granuloma was considered as a chronic inflammatory process by Paltauf and Sterberg in 1896 and 1898; since this time Hodgkins' disease has been applied to this entity. It is almost impossible to separate the diseases from a pathological or anatomic viewpoint. In some cases, referred to as Hodgkins' sarcoma, pathological evidence is present of two or of all three of these diseases in the same case. In many cases, if not all of them, it is next to impossible to make a clinical, pathological or roentgenological differentiation. The history is valuable, the physical examination helpful, the blood picture not conclusive, the roentgen ray indispensible. A specimen for biopsy can rarely be obtained even when the abdomen is opened and when obtained from chest or abdomen a positive differential diagnosis can not always be made. The prognosis and treatment of all are the same.

At present Hodgkins' disease is called a chronic inflammatory process while Much and Fraenkel consider it a chronic form of tuberculosis of the lymphatic system because they were able to produce tuberculosis in animals by inoculation of material from lymph nodes of patients affected with Hodgkins' disease. Ewing states there is only a step between tubercular adenitis and malignant lymphoma.

The roentgen ray gives more information than any other examination and frequently an accurate differential diagnosis is possible. When a positive diagnosis can not be made at the first roentgen ray examinations and a specimen is not obtainable on account of the location, a test dose of roentgen therapy will aid in making the diagnosis. Most of the lympho-blastoma will completely disappear in ten days, proven by re-examination by the roentgen ray or the clinical improvement of the patient. Visible tumors in the neck or axilla have frequently "melted away" and are barely palpable ten days after treatment. The highly cellular and anaplastic tumors will show reduction to one-half their original size in from three to six weeks, requiring two to three months for entire disappearance following irradiation.

The etiology of any of the group is not clear. These tumors may arise from the mediastinal structures, the hilar lymph nodes the retro-peritoneal lymph nodes, the chest wall, the lymph nodes of the neck, or the lymph nodes of the axilla. The most frequent metastatic tumors of the thorax are secondary to primary carcinoma of the female breast, infantile carcinoma of the testicle, carcinoma of the prostate gland, sarcoma from bone, sarcoma from some distant gland, or sarcoma from any of the soft tissues.

They are to be differentiated from non-expansile thoracic aneurism, primary carcinoma of lung or bronchi, Pott's disease of the dorsal spine with abscess, a dilated esophagus and pancreatic cysts. Where differentiation is not possible by the first examination, all of the benign lesions can usually be eliminated by their failure to change in size after a test dose of irradiation. These lesions are surgical problems and will not be discussed.

Frequently one film of the chest is all that is necessary, though stereoscopic and lateral films are preferable. In the advanced cases where fluid is present in the pleural cavity, the fluid should be removed and films made immediately. Frequently, additional information can be obtained by injecting air into the

*Read before the Kentucky State Medical Association, Harlan, October 1-4, 1934.

pleura as the fluid is removed. In this way invisible nodules may be rendered visible by contrast.

An accurate diagnosis can not always be made by the roentgen film in Hodgkins' disease of the thorax. The characteristic findings are widening of the upper mediastinal shadows with nodular margins of the shadow. There are other conditions that will give the same findings. All that should be required of the roentgenologist is to report the shadows as accurately as possible and probably say one is dealing with a malignant lymphoma.

Rarely are the mediastinal structures displaced, even in the presence of massive tumors that may appear unilateral. It is thought the trachea is never displaced.

After treatment the margins appear quite straight; frequent examination after treatment should be made to detect early recurrence. The re-appearance of nodular marginal shadows is indicative of a recurrence even though the nodules are small and barely perceptible.

In primary carcinoma of the lung or bronchus the differentiation is usually not difficult as the lesion is unilateral, is limited to one lung, usually to one lobe.

With the aid of the bronchoscope for obtaining a specimen, a microscopic diagnosis can be made with ease; even when only a minute specimen is obtainable a diagnosis is possible. I do not believe one should be confused very often in differentiating primary carcinoma of the lung or bronchus.

Tuberculosis of the lung may, in rare cases be confusing where the lesion is limited to one lobe or a part of one lung and the involvement causes complete or almost complete consolidation extending from hilum to periphery.

Tumors involving the upper abdomen are rarely visible on the primary roentgen film; their size, location and nature can usually be determined by the character of displacement of the stomach, the duodenum, the colon, or the kidneys, and their relationship to these structures. Pneumoperitoneum will frequently make the diagnosis easy, rendering the solid tumors of the upper abdomen visible on the roentgen film by contrast. In doubtful cases preferably the abdomen is to be opened under local anesthesia for diagnosis. If possible a specimen for biopsy study is to be taken, though frequently this is dangerous and sometimes hazardous. This is not essential as a surgical diagnosis is conclusive.

Lymphoma or lympho-sarcoma in the upper abdomen is recognized by indirect methods and no characteristic findings occur. The structure or structures displaced depend on the location and size of the tumor. The stomach shadow may show deformity on the lesser or greater curvature where a solid tumor is present. The margins of the deformity give stringy shadows, frequently circular in character and may give one a fairly accurate idea of the size and contour of the tumor or tumors that are causing the deformity. The same is true where extrinsic pressure is being exerted on the duodenum.

In pancreatic cyst the displacement of the stomach may be great, the gastric shadow showing little or no deformity. If deformity is present, the margins are usually smooth in outline. Where fluid is present one can look for smooth margins in the deformity or displacement of the viscus without deformity. The amount of fluid present will determine the amount of displacement The primary location of the fluid appears to determine if the displacement is in the duodenum, the lesser or greater curvature of the stomach as will be shown upon the roentgen slides.

The only agents that have been proven of permanent service in the treatment of malignancy are surgery, x-ray and radium. If tumors of the thorax or upper abdomen can be proven to be benign they are surgical. In practically all of the malignant tumors of the thorax and abdomen x-ray and radium are the agents of choice, surgery being used occasionally as an adjunct and may be of great relief to the sufferer. Radical surgery is rarely indicated and, as a rule where attempted is not only of no service but is harmful as incomplete removal of malignancy results in a more rapid growth and a better blood supply, thereby rendering them more resistant to radiotherapy.

From reports there is no doubt that the radium bomb is more efficient than any x-ray that so far can be produced. Very few physicians have enough radium to prepare a bomb. Again very few patients are able to afford radium bomb treatment as large quantities of radium or radium salts are necessary, requiring a long period for treatment.

X-ray therapy becomes the only agent that is practical on account of its low cost; it can be produced in quantities making it available for large areas. Uusually large areas are necessary as the adjacent regional lymph nodes should be treated as well as the involved and palpable nodes.

There is no doubt that the higher voltages 200 K. V. or more, are more efficient, more economical, as well as easier on the patient as less time is required to any given treatment than with the lower voltages. Much less nausea occurs when the patient is not exposed to the gases from the tube and machine as was the custom when low voltage therapy (130 K. V.) was used.

It was demonstrated many years ago that lympho-blastoma or any of the tumors arising from the lymph nodes would recede and frequently disappear with a dosage of from 60 per cent to 80 per cent of an erythema dose applied, the so-called sarcoma dose. We are convinced that a dose approaching a full erythema dose will cause quicker recession with less possibility of an early recurrence than where a 60 per cent to 80 per cent dose is given.

It has been our custom for ten years or more to treat tumors of lymphatic origin with a full erythema dose, using 3-4 to 1 mm. filtration of copper with a voltage of 200 K. V., repeating the application in eight to ten weeks, after which time it is a matter of watching and waiting for metastasis or recurrence to appear.

Many of these patients are quickly rendered symptom free with a complete disappearance of all the original tumor. The pleasing thing is the patient may lead a useful life, carry on his vocation and enjoy seemingly good health for an indefinite time. One of the cases here reported remained free of recurrence and free of symptoms from 1924 to 1934. The diagnosis clinically at present is that of cervical Hodgkins' disease while the original diagnosis from biopsy specimen was inconclusive, though clinically it could be classed as an Hodgkins' or tuberculous cervical adenitis. This case proved Ewing's statement that there is only a short step between the benign and the malignant cervical tumor.

Case I. Miss D., female. Age 51. First seen August 1924. No history of cancer or neoplasm in family. She was positive that she first noticed a small lymph node in the neck four or five years ago. Had been treated for the previous six months with salves, iodine internally and tonic with only slight temporary improvement.

Examination showed a well developed, moderately well nourished woman. The lymph nodes of both sides of the neck showed massive involvement. The face was distorted, slightly oedematous. The lymph nodes extended from each auricular area to each clavicle. Lymph nodes the size of hen's egg were present in each axilla and minute nodes were present in each groin. No palpable masses were present in the abdomen. No mediastinal broadening or visible nodes were seen in the chest roentgenogram.

One lymph node was removed from the left side of the neck for biopsy. The first report from the pathologist was labelled "not tuberculous. Final diagnosis is to be made after study of more sections." Two weeks later the final report was "additional sections show no evidence of tuberculosis or tumor."

Over a period of three and one-half months, August 1st to November 14, 1924, x-ray therapy was applied to the cervical lymph nodes through three portals, viz., right and left antero-lateral and posterior, using 200 K. V. and 1 mm. cu. 1 mm.al filters. Both axillae, both groins, chest and abdomen were given x-ray therapy through anterior and posterior and lateral portals.

Examination on November 28, 1924, four months after treatment was begun, revealed no palpable nodes present. The patient had returned to her work and felt well

No recurrence was noted until June or July 1934. On admission to the hospital August 30, 1934, her chief complaint was cough and dyspnoea, being more marked on arising in the morning.

On examination we found massive tumors on both sides of the neck; the left cervical lymph chain revealed nodes the size of a man's fist. No palpable nodes were present in the axillae or groins. The upper mediastinal shadows were increased in transverse diameter when observed by the x-ray. Neither side of the diaphragm was sharply outlined; there was evidence of a small amount of fluid in the lower lateral half of the right pleura.

X-ray treatment was again instituted on August 30, 1934, and within four days marked reduction in the neoplasms were noted. The dyspnoea was much less and the nonproductive cough had ceased.

Discussion: Recession without early recurrence in such wide-spread involvement of the lymph nodes is quite unusual. Apparent good health has been experienced for ten years. The microscopical diagnosis was inconclusive and did not sustain the clinical diagnosis of Hodgkins' disease. The clinical diagnosis was not changed and subsequent events and recurrence and the present appearance and location of the enlarged lymph nodes would meet the approval of most internists in the diagnosis of a cervical Hodgkins' disease.

Case II. Mr. S., male, Age 62. Diagnosis: Retroperitoneal Lymphoma. First seen August 1, 1933. Occupation: Paperhanger. Father died of gastritis (patient's statement) at age 75. Mother died of pneumonia, age 50. Four brothers died in infancy, probably of diphtheria. No sisters. One brother living and well.

Three months previously he had begun to have epigastric discomfort and anorexia. In a short while he was unable to lie down without having cramps in the upper abdomen. For several weeks he had slept in a chair

almost erect. Vomiting appeared with very little nausea. He had lost 30 pounds in weight.

Roentgen examination of the stomach revealed an extrinsic defect of the pyloric portion of the stomach and duodenum. Roentgen diagnosis was retro-peritoneal lymphosarcoma. One week later the abdomen was opened by Dr. R. N. Goldsborough and Dr. W.E. Fallis and a surgical diagnosis verified the roentgen diagnosis. No specimen for biopsy could be obtained with safety.

Roentgen treatment was instituted on August 15, 1933 to the epigastric tumor through anterior and posterior portals using 200 K. V and 1 mm. cu. 1 mm. al filters. A full erythema dose was applied through the posterior portal while 88 per cent of an erythema dose was applied through the anterior portal. The posterior treatments were given first to allow complete healing of the abdominal wound before anterior treatments were begun.

Two months later a full erythema dose was given to both areas. He had gained 50 pounds in weight and returned to his original occupation as a paperhanger. No palpable masses were present in the epigastric area.

To date fourteen months have elapsed with no recurrence. He frequently tells his friends "of his operation and the removal of a tumor from his stomach the size of his head." His present weight is 150 pounds.

DISCUSSION

Paul Turner, Hazelwood, Louisville: Dr. Keith has a subject that cannot be thoroughly covered in the time at his disposal. There are so many things that he could say that are left unsaid that they would almost make a book. I cannot attempt really to discuss what he has said, but I want to add something that he might have said.

I think it is wise to consider that the x-ray is of the utmost importance in the diagnosis of any of these conditions in the chest. As a matter of fact, the x-ray is absolutely indispensible when we come to diagnose cancer or anything that is of equal importance in the chest. Naturally, these shadows do not particularly resemble the tuberculous conditions with which we are so familiar, but in many instances these shadows will suggest that there is a malignant tumor. Nevertheless, there are other conditions that are quite confusing.

Here, we will say, (illustrating on blackboard) are the lungs and here is the mediastinum. One particular thing that Dr. Keith did not mention was tumors of the mediastinum confined principally to the bronchi which not frequently but occasionally we find. These tumors will present shadows of really widened mediastinum. They do not show the shadows that were given in the films that Dr. Keith showed, more of a unilateral condition. These tumors fill the mediastinum. The bronchi are involved.

The x-ray of such a condition as that might suggest cancer of the bronchi, but other conditions can present that same sort of picture, and among them perhaps a tuberculous condition, but usually there are other shadows in the lung that would suggest tuberculosis, whereas if they are confined to the mediastinum they would perhaps rule out a tuberculous condition. Nevertheless, there are fungi and yeast, Aspergillus, Monilia and others that might give that same picture, particularly if there were certain other deposits in the lung.

I want to say that we have with us probably the authority in the United States on conditions of this sort, and I hope that Dr. Kennon Dunham will tell us something about this kind of condition.

Henry Kennon Dunham, Cincinnati: I very much appreciate the kind word from Dr. Turner, but I deny the allegation. I am not at all qualified to discuss that paper. I am very much interested in it. I want to congratulate Dr. Keith upon what he has done and said and how well he has presented his proposition.

The value of the x-ray is extremely great, but diagnosis, of course, must be made with medical brains. While I have used the x-ray many, many years, I want you to understand that we do not feel that just looking at any x-ray plate is sufficient to make the diagnosis. Examination of the sputum is of great value, the bronchoscope is of great value in certain cases, not always. The x-ray has to be used, as Dr. Keith has shown you, with great judgment, and then you must not always expect to get a cure nor expect that the diagnosis is going to be 100 per cent.

We must not be misled, but we must realize that malignancy of the lung as well as benign tumor is very much more common than we used to think of or know until we had the x-ray.

There is just one type of tumor which I would like to bring to your attention because it is easy to diagnose. Dr. Pancoast of Philadelphia brought it to our attention. It was an apical mass showing on the x-ray bone degeneration of a rib near the mass. It may be a sarcoma, it may be carcinoma, but when you get a mass which is usually diagnosed as tuberculosis and you get a good picture showing that one of the bones in that neighborhood shows degeneration, i. e., that there is loss of density in that bone, you can almost from the x-ray alone make the diagnosis of malignancy of that tumor and keep from treating that patient for tuberculosis.

D. Y. Keith, (in closing): I am familiar with Dr. Pancoast's work on the diagnosis of tumors of the upper chest walls referred by one of the discussants. As an illustration of the difficulty

in making a diagnosis by the x-ray alone, we presented films of a dense circular tumor of the upper chest to a group of roentgenologists of national reputation. Everyone thought bone destruction was present and expressed an opinion that we were dealing with a malignant tumor. On aspiration it was proven to be an abscess of staphylococcic origin.

I am sorry time did not permit the subject to be more fully presented and illustrated with lantern sildes.

PEPTIC ULCER TREATED BY VENOCLYSIS. REPORT OF CASES*

George A. Hendon, M. D.

Louisville.

I feel deeply conscious of my defensive mechanism this evening, because I realize so acutely that anyone who presumes to take a step of radical departure from established paths of procedure is sure to encounter a withering blast of resentful hostility, unless he is shielded by the glamour of a great name, or a dazzling history of previous achievements. Possessing none of these advantages I am forced to seek protection in the merit of my cause and the generous indulgence of my audience.

My group of cases is pitifully small in comparison with others that have been studied and published, but when I reflect upon the fact that Dr. Beaumont only had had one case and it proved to be the source of such abundant knowledge, I felt justified in offering my modest experience for your consideration.

In doing so, I am inviting the criticism of those who hold opposite opinion, nor do I wish to escape the strictures of those who may be skeptical, I realize that both are essential to the purity of science.

Neither do I invite you to witness an unblemished record any more than I would ask you to view a cloudless sky or a waveless sea.

I am herewith presenting thirty cases divided into five groups. Mortality, Hemorrhage, Operative Relapsing, Perforating.

Mortality

Case 11. H. H. A. Age 59. Admitted February 22, 1930. Died two hours after admission. Peptic ulcer hemorrage. Has been having gastric disturbance for two years. Three weeks previous he had a perforation and was treated by Venoclysis. He apparently recovered. On morning of admission he had sudden pain and abdominal distention and shock. Grew rapidly weaker and died in two hours.

Case 25. Miss E. D. Age 53. Admitted May 13, 1933. Discharged June 5, 1933. Complained of vomiting and pain in abdomen without nausea. She has had this condition for past two or three months. Thought she had "ulcerated stomach" for several years. Lost forty-six pounds in weight in four months' time. Venoclysis started May 14, 1933 and discontinued May 24, 1933. This patient became progressively weaker and died two days after returning home. Evidently this was a cancer.

Case 10. A. Zin. Age 41. Admitted March 29, 1933. Patient has been complaining of stomach trouble for past ten years. Has lost "considerable" weight. Diagnosis peptic ulcer and hemorrhage. Venoclysis started immediately after admission. He died April 4, six days after admission. Blood transfusion March 31. Had copious hemorrhages for past four years. Had only 930,000 red blood cells on admision. Hemoglobin 18 per cent. He was quiet and composed until blood transfusion was given.

Hemorrhage

Case 2. B. W. Age 53. Admitted October 26, 1932. Had a gastro-enterostomy for hemorrhage three years previous. Patient was in profound shock and coma. Severe abdominal pain and hemorrhage ushered in the attack on October 24. Bleeding from both the stomach and the bowels. Diagnosis, bleeding marginal ulcer. Venoclysis was discontinued at end of eighth day. Patient has remained well to date and has gained nineteen pounds and weighs more than he ever did. This patient had a subsequent intestinal hemorrhage January 24, 1934. Regained his weight and has been well since.

Case 3. H. G. E. Age 52. On February 15, 1932, became nauseated and vomited a large amount of blood followed by extreme weakness and vertigo. He also passed a few bloody stools. This continued through February 16. Venoclysis attached February 17. Bloody stools and blood emesis both stopped. March 17, he was up and around. His weight before he was ill was 133 pounds. April 15, 1932 he weighed 165 pounds.

Case 5. W. H. W. Age 31. Admitted December 18, 1932. Onset four years ago. Two and half years ago, patient had a rather severe hemorrhage followed in a few days by a second. Apparently recovered on Sippy diet. The Venoclysis was continued from December 18, 1932 to January 14. He was discharged from the hospital January 14, 1933. Regained his weight and has been well since.

Case 8. W. E. Age 59. Admitted November 17, 1931. Peptic ulcer with hemorrhage. Ten years ago had hemorrhage and

Read before the Jefferson County Medical Society.

vomited blood, but apparently recovered in three days. Present attack began November 17. Vomited blood twice and was brought to hospital. Vomiting ceased as soon as Venoclysis was began. Venoclysis continued five days. Discharged from hospital, July 31. Gained forty pounds and has remained well up to present time.

Case 10. A. Zin. Age 41. Admitted March 29, 1933. Patient has been complaining of stomach for past ten years. Pains have grown worse and attacks more frequent gradually. Has had copious hemorrhages at irregular intervals for the past four years, more frequent during the past year. Diagnosis, peptic ulcer and hemorrhage. Venoclysis attached immediately after admission. March 29, 1933. transfusions given through Venoclysis Became very restless and delirious and this condition continued until he died, April 4. This man was quiet and composed until blood transfusion was performed.

Case 11. H. H. A. Age 59. Admitted February 22, 1930. Died two hours after admission. Peptic ulcer, hemorrhage. Has been having gastric disturbance for two years. Three weeks previous he had a perforation and was treated by Venoclysis. He apparently recovered. On morning of admission he had sudden pain and abdominal distention and shock. Grew rapidly weaker and died.

Case 15. Jesse B. Age 25. Admitted June 11, 1929. Seven hours after admission had copious hemorrage from bowels and pulse could not be felt. Finally came back. Venoclysis started June 11. Patient made steady improvement and Venoclysis discontinued June 19, 1929. June 20 and 21 pain returned in abdomen and especially the epigastric region. June 22, Venoclysis resumed, and continued until June 25. Left hospital June 27 and has remained symptom free to this date.

Case 17. Mrs. M. L. Age 66. Admitted January 4, 1930. Severe gastric hemorrhage. Gastric ulcer. Vomited much blood and some of it clotted. Venoclysis begun January 4. Discontinued January 9. Left hospital January 20. This patient seems to have made a complete recovery. She has not had symptoms referable to stomach or hemorrhage since leaving the hospiital.

Case 20. Mr. G. S. Age 27. Admitted to hospital September 21, 1931. Gastric ulcer. Had numerous severe hemorrhages from the stomach. Patient has been getting nauseated and vomiting since May. This has been occurring every day. Had retinal hemorrhage in right eye near disc and one large hemorrhage near macula region in left eye. Venoclysis started October 2, and discontinued October 8. October 14, left arm incised and let out a large amount of purulent drainage. November 17, dismissed from hospital. Up to the present time there has been no evidence of recurrence. Patient seems to be normal in every way.

OPERATIONS

Case 21. H. P. K. Admitted June 13, 1933. Diagnosis gastric ulcer. Treatment Venoclysis. Discharged July 1, 1933. Condition on discharge, improved. This patient in 1914 had had a cholecystostomy. No relief. In 1932 had removal of the gall bladder and adhesions broken up and still no relief. Has cramping pains like lead cramps. Pain occurs almost always in spite of what he eats, but worse at night. Has lost seventy pounds. Had attacks diagnosed as lead colic in 1923 and 26. Diagnosis of gastric ulcer was made based on history and x-ray report. Venoclysis established. Allowed to run ten days. Patient improved. Patient gained twelve pounds. June 27 having pain in the abdommal region again. Began losing weight at the rate of about two pounds a day. July 1, left the hospital. Readmitted on July 7. Complained of constant nausea and cramping in the upper abdomen. Had lost about eighteen pounds since leaving the hospital. Almost complete closure of the pylorus was diagnosed. Patient had been vomiting almost constantly since leaving the hospital. Suffered terrible pain. Constant nausea and cramping. Operation disclosed a healed ulcer on the gastric side. Posterior gastro- enterostomy was done. Blood calcium was made showing a reduction of 7½ mg. Venoclysis started again July 8. On July 10, he began hiccoughing. July 12, was delirious. July 13, appetite fairly good, taking water and orange juice. July 13, became nauseated and began vomiting. Constantly nauseated. Emesis at one time 900 cc dark green fluid. Emesis was almost continuous. July 12, vomited black dark brown fluid. Emesis was almost continuous. July 12, vomited black fluid with a very foul odor. Severe pain in the abdomen. Vomited at one time 1,800 cc dark brown fluid. Again vomited 1,500 cc. At 6:00 p. m. July 19, was given 30 cc of 1 to 3,000 hydrochloric acid intravenously. July 20, had muscular twitching of the hands and arms, jerking of the entire body. Hiccoughing. Given morphine 1-4 grain but not effective. Twitching of the muscles of the hands and arms. Vomited large amount of yellow fluid. At 4 p. m. Juy 20, was given 30 cc of HCL intravenously by Dr. Rulander. Venoclysis has been started again on July 2. Calcium gluconate 60 grains daily. Constant twitching of the muscles of the hands and

arms. Very restless. Venoclysis was given at the rate of 60 drops a minute. July 20 very severe twitching of the entire body. July 20, 12:45 the twitching stopped. Morphine given but not effective. Patient delirious. Continual twitching of the muscles of the upper extremity. At 8:30 was unable to count pulse. Tried to get out of bed. July 21, was of fairly good volume but twitching of upper extremity continued. At 11:45 July 21 relaxed and perfectly quiet. Began to perspire freely. Spent a fairly comfortable night. July 23, was still talking loud but was able to take broth which he retained and enjoyed.

Had involuntary stools. July 21, continued to take some food by the stomach. At 9:30 July 26, Venoclysis was discontinued. Complained of being hungry but continued to have involuntary stools. Was very irritable. August 1, was up and in a wheel chair. Dismissed from the hospital August 16, walking. X-ray by Doctor Fugate states—Pylorus closed by scar tissue. The stomach is of the post-operate type, showing a gastro enterostomy about three inches proximal to the pylorus. Second confinement in the hospital was from July 8 to August 16 inclusive. During which time he had a gastro-enterostomy for a closed pylorus. Closure due to contraction of healed ulcer area. Was operated July 8 and became nauseated and began vomiting. Probably due to vicious circle. July 20, tetany began and blood calcium was found at 7.5 mg. Venoclysis started with calcium gluconate. July 21 calcium 10 mg. July 22, it was 12 mg. Twenty units of Collips serum was given twice daily July 20, 21 and 22. After that serum was discontinued but calcium was kept up until July 26. Patient now weighs 196 pounds. Gained 74 pounds.

Case 26. Mr. L. G. Age 36. Admitted January 9, 1934. Perforated ulcer on lesser curvature of the stomach. Onset five days ago when patient had sense of discomfort and pain in epigastrium. Before beginning operation, Venoclysis started January 9, 1934. Venoclysis discontinued January 17, 1934. At operation an ulcer aperture the size of a lead pencil was discovered on the lesser curvature of the stomach and sutured. Convalescence was smooth and recovery complete. No gastric symptoms to date. Gastro-enterostomy was not done.

Case 1. Mrs. W. Age 54. Admitted February 7, 1926. Three years ago patient had severe cramps in abdomen, nausea and occasional vomiting. During the past year, the cramps came on more often. Gastric ulcer diagnosed and posterior gastro-enterostomy done. Discharged March 5, 1926: Symptoms relieved. Patient readmitted February 20, 1929. Began with gastric ulcer pains for which she was operated three years ago and some relief, but symptoms are recurring. Lost weight. No nausea or vomiting. February 21, Venoclysis was begun and discontinued March 9, 1929. Patient discharged from hospital March 16, 1929. Patient has remained well up to the present time with the exception of occasional gaseous eructations. Five years, three months.

Case 12. C. B. Age 42. Merchant. Admitted the first time January 12, 1930. Chief complaint, pain in the upper right quadrant. For more than two years has been having pain bearing no relation to food or time of day. No vomiting but much gas. No regurgitation of food. Soda has little effect on the gas and discomfort. Health was good up to two and a half years ago. General appearance—well developed, well nourished, no masses felt. Diagnosis of gastric ulcer was made. Diagnosis based on x-ray examination. Non-obstructive ulcer on the gastric side. Patient put on Venoclysis which he permitted to run only three days, when on account of his uncompromising protest it had to be discontinued. He was discharged on January 23. Symptoms somewhat relieved. Patient was readmitted on July 1, 1930. Symptoms had returned. Patient was operated July 8, 1930. Laparotomy disclosed gastric ulcer partially healed. Posterior gastro-enterostomy was performed. Patient left hospital July 2, and has remained well since.

RELAPSE

Case 2. Dr. W. Age 53. Admitted October 26, 1932. Three years previous had a post G. E. for ulcer. Patient was in profound shock and coma. Severe abdominal pain and hemorrhage ushered in the attack on October 24. Bleeding from both the stomach and bowels. Diagnosis, bleeding marginal ulcer. Venoclysis was immediately attached October 26. Patient seemed so much improved. Venoclysis was discontinued at end of eighth day. Patient has remained well since and has gained 35 pounds. On January 24, 1934 patient had a rather severe hemorrhage which ceased spontaneously but confined him to his home about four weeks.

Case 11. H. H. A. Age 59. Admitted February 22, 1930. Peptic ulcer hemorrhage. Has been having gastric disturbance for two years. Four weeks previous he had a perforation and was treated by Venoclysis. He apparently recovered. On morning of admission he had sudden pain and abdominal distention and shock. Grew rapidly weaker and died two hours after admission. Venoclysis was not instituted.

PERFORATIONS

Case 6. W. M. Age 26. Admitted Jan-

uary 9, 1932. Clinical and x-ray study shows signs of perforations present. Two years ago he began to have periods of pain in his stomach during which time he would vomit. These attacks were not very severe until forty-eight hours before admission when he was suddenly seized with a sharp pain and fainted. He was too ill to endure the hazards of a laparotomy. Venoclysis attached and improved immediately and continued eight days. Discharged from hospital January 23. All symptoms relieved.

Case 9. C. D. Age 40. Referred by Doctor R. L. McCormack. Acute symptoms occurred one week previous to admission in the form of severe pains in the upper abdomen. On day of admission he had an acute attack of pain throughout the abdomen and especially in the epigastrium. On admission his abdomen was rigid, surface cold, pulse 88, temperature 97. He had gone to the doctor's office about noon on the day of admission for an x-ray study which was made. While returning home on the street car he experienced very severe pain in the epigastrium and collapsed on the car. I saw him about 9:15 p. m., with Doctor McCormack. We made a diagnosis of gastric perforation. He refused operation. Venoclysis was attached and in thirty minutes he was comfortable although no morphine had been given him since entering the hospital. Venoclysis was continued eight days when all abdominal symptoms disappeared. Was kept in the hospital on soft, restricted diet for thirteen days. During this time he gained nine pounds. X-ray films on April 3, about two months after his treatment, show barium scattered in the peritoneal cavity. On the lesser curvature side of the duodenal bulb near the base is the deep crater of a penetrating ulcer. I think the barium cavity is conclusive proof that he had a perforation on his way home from the doctor's office after the x-ray study was made.

Case 26. Mr. L. G. Age 36. Admitted January 9, 1934. Perforated ulcer on lesser curvature of the stomach. Onset five days ago when patient had sense of discomfort and pain in epigastrium. Venoclysis started January 9, 1934. Discontinued January 17. At operation an ulcer aperture the size of a lead pencil was discovered on the lesser curvature of the stomach. This was closed by suture. Convalescence was smooth and recovery complete. No gastric symptoms to date.

Case 11. H. H. A. Diagnosis Perforated Duodenal ulcer. Age 59. Admitted to Baptist Hospital January 21, 1930. Too sick for routine physical or x-ray examination. Also too sick for operation. Profound shock and general prostration. Venoclysis begun at once and continued until February 2, 1930. Patient improved rapidly and left the hospital February 5, apparently convalescent.

DISCUSSION

R. L. McCormack: I would like for Dr. Hendon, in closing the discussion, to say something about the reaction of the gastric contents during this procedure.

J. C. Ray: As we know, venoclysis has been used in the treatment of various conditions in the body, but it is in the control of hemorrhage in peptic ulcer that we get the most prompt results from venoclysis. Not only does the hemorrhage stop within a very short period of time, but gastric symptoms such as nausea, vomiting, etc., are absent. No food is necessary during this period and very little water, which is usually given in very small quantities. The stomach is at rest most of the time.

The patient Dr. Hendon mentioned having seen with us was an aged man, in too much shock to permit anesthesia or operation. His red cell count was around two million. Under venoclysis he recovered in a few days.

The ease with which venoclysis is administered, in the hospital or anywhere else where the necessary equipment is available, is another advantage of this treatment. Venoclysis can be instituted within ten or fifteen minutes after everything is ready.

Morris Flexner: I would like to ask Dr. Hendon how venoclysis stops hemorrhage, and I would also call his attention to the fact that other methods of non-feeding have not been successful.

G. A. Hendon, (in closing): The manner in which venoclysis is administered is of vital importance. A useful guide as to quantity is one cc of 10 per cent glucose solution per pound of body weight per hour. In children I use a 5 per cent solution and give 2 cc per pound of body weight per hour.

Dr. McCormack asked a question regarding the reaction of the stomach contents during venoclysis. We have checked reactions from time to time by withdrawing some of the contents of the stomach and testing it. In some cases the stomach contents become alkaline and in others it remains acid all the way through, and those which remain acid do just as well as those which become alkaline. For that reason I have come to believe that acidity of the stomach contents has very little effect upon peptic ulcer and that treatments based upon alkalinizing the stomach contents are illogical.

We had one patient who presented a marginal ulcer following a gastroenterostomy three or four years previously. Her stomach contents were alkaline. After a few days of treatment it became acid but the patient was feeling better than at any time since her gastroenterostomy.

LEAD POISONING IN CHILDREN*

W. W. Nicholson, M. D.

Louisville.

In the past few years there has been a marked increase in lead poisoning in children, due probably to the recent discoveries in aids in diagnosis rather than an actual increase. Lead poisoning is an old clinical entity, but no doubt a large number of lead poison cases have been called tuberculous meningitis, encephalitis, etc. For the three year period, 1932, 1933 and 1934 there were ten cases of lead poisoning with proven diagnosis and 4 possible ones admitted to the Children's Ward of the Louisville City Hospital while in the preceding 5 year period there were none recognized

Lead intoxication is a preventable disease and much effort should be put forth to prevent it. The most common sources are eating of paint from woodwork, furniture, and toys. For the past few years the better manufacturers have eliminated lead from toys and children's furniture, but often furniture is repainted. Other sources are lead from water pipes, cooking utensils, cosmetics used by the mother, and lead nipple shields; also children playing with paint.

In 1932 in Baltimore, a large number of negro children were poisoned as a result of burning old electric battery cases in their stoves. This resulted from the inhalation of the fumes. It is well established that the respiratory tract is a frequent path of entry in cases of chemical poison.

Poisoning following the ingestion or inhalation of lead depends on a number of factors. First, the amount of lead ingested; second, the period of time which it is taken. The absorption of small amounts of lead seems to be a usual occurrence and is not dangerous. Third, the age; children are more susceptible than adults.

Symptoms: The clinical diagnosis of lead poison in children is often difficult. Most children come under our observation because of neurological symptoms, the most common of which is convulsions. Of the ten proven cases admitted to the Louisville City Hospital seven came in with the chief complaint of convulsions and three of other causes. Eye signs such as choking of the disc and visual disturbance may be present, and are often accompanied by elevation in blood pressure. Peripheral paralysis is some times seen but not often in children.

Anorexia, vomiting with abdominal cramps and constipation with varying amounts of anemia may bring the child under our observation.

The lead line of the gums is seldom found in children, although if found is positive of lead poisoning. The blue gums in the negro may be mistaken for a lead line. The lead line is narrow and always near the margin of the gums.

Diagnosis: First is history. Often, a history can be obtained of recent exposure to lead, as fresh paint around the home, or eating of paint from furniture, or recent installation of water pipes where lead has been used in joining. Using lead pipes has been abandoned. Second, The blood picture. As stated before there are varying degrees of anemia. Abundance of stipplings in red cells is always suspicious of lead poison, although stippling may be found in other conditions and may be absent in lead intoxication.

In 1930, Park, Vogt and others independent of each other described a lead line found in the long bones of children, which no doubt, has done more in diagnosis of lead poison in children than any other one procedure. The shadows in the bones produced by lead occur in the rapid growing bones and always develop at the diaphyseal line. If x-ray films are taken while the poison is in progress, the shadow will be at the extreme end of the shaft. If taken some weeks later, the shadow will appear at variable distances from the end. The width of the line may also vary with the time during which the consumption of lead has been in progress. It is also possible to have two lead lines, the poison taking place at different times.

Shipley has recently applied a spectoscopic method for the identification of lead in the ash of 10 cc. of blood, but so far it is not of practical use to the majority of physicians.

Treatment: The symptoms of lead poison are due to the tide of lead circulating in the blood stream and its attack on the new red blood cells, give rise to the basophilic degeneration of these cells. The number of cells attacked causes the varying grades of anemia. First: Treatment to remove the supply of lead. Aub has taught that the metabolism of lead is essentially the same as that of calcium and that the administration of calcium facilitates a rapid deposition of lead in the bones, thereby decreasing the tide of lead in the blood. The experiment of Shelling has brought some controversy on the subject and Wilkins argues that it is the phosphorus that is given as in milk which forms an inert form of lead which is deposited in the bones. Heretofore, liberal use of potassium iodide has been employed as a deleading agent. We now know that its use in acute poison serves only to exaggerate the symptoms.

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After the acute symptoms, the child will delead himself by becoming slightly acidotic. There is always some danger of acute symptoms recurring if the carbon dioxide tension is lowered such as in acute infection of dehydration.

DISCUSSION

J. E. Stanfill, Jenkins: This question of lead poisoning is indeed an interesting question. During the past five years I have had an opportunity to see two cases. One was in an adult who was a painter, and the other was in a child. The adult had been working at his trade for a period of several years, and the symptoms that he presented were those that we call lead colic. Each year for a period of a short time this man would have to quit his work because of this condition. After staying from his work for a period of a few weeks he would recover. During the acute attacks thorough elimination and resorting to opiates for a short period of time would relieve his condition. He never developed the advanced condition that is often found, that is the neurological symptoms, peripheral neuritis and the other advanced symptoms.

The child was supposed to have developed the condition from playing over a period of a few weeks with bucket that had contained paint. This was found out from the history of the case. It had the gastro-intestinal symptoms, with slight peripheral neuritis, and after the child was treated for a period of a few days the symptoms subsided. Each patient recovered.

William Nicholson (In closing): This child was in an acute toxic condition and obtained its lead poisoning from a country home that had recently installed a water system in the home, and evidenly too much lead was used to join the pipes. Lead was found in the water and also some stipplings were found in two of the other children, but none of them had enough to develop lead intoxication. You don't have to have a lead encephalitis; you can have a lead intoxicated without encephalitis. You can also have a chronic form that takes a period of a year or two years to develop with anemia and cramps and maybe never develop encephalitis.

Treatment of a Case of Hemophilia.—Schiavo says that the oral administration of recently prepared ovarian extract given in small doses and for a prolonged period, is valuable in the prevention and treatment of hemophilia. In his patient, aged 11, amputation of a phalanx of the finger was necessary owing to osteomyelitis. The subsequent hemorrhages endangered the life of the child. The operative wound failed to heal. Oral administration of freshly prepared ovarian extract, as mentioned, checked the hemorrhage and favored the healing process of the operative wound up to recovery.

CONCERNING THE SYMPTOMATOLOGY AND DIAGNOSIS OF EXTRA-MEDULLARY TUMORS OF THE SPINAL CORD*

FRANKLIN JELSMA, M. D.

Louisville

In the earliest annals of medical history, references to spinal cord function can be found. Before the Christian era, it was known that the higher the injury to the cord, the more dangerous the effects; also, that the paralysis was always on the same side as the spinal cord lesion. Hippocrates is credited with having studied traumatic lesions of the spinal cord. Injuries resulting from warfare and hand-to-hand combat were common, and a few of the best observers made some very pertinent and far-reaching observations. Later, Galen noted that paralysis of the upper extremities occurred when the cord damage was above the fifth cervical vertebra, and that they were not involved when the lesion was as low as the second thoracic vertebra.

The opportunity for anatomical study was comparatively meager, so it was not until the eighteenth century that the effects of compression of the cord by tumor was mentioned. Horsley, in 1887, was first to remove successfully, a spinal cord tumor. Within the past 40 years, through the correlation of the clinical, laboratory, x-ray and surgical data, tumors of the spinal cord have generally become quite readily recognized; and offer, through early removal, as gratifying results as any group of cases amenable to surgery. The hope and need, however, are that they will be recognized early, so that they can be removed before irreparable and permanent damage has been done to the spinal cord. It is to this end, that the following notes are offered:

In contrast to intracranial tumors, true tumors of the spinal cord are rare in childhood. About 85 per cent occur in adult life. Those that occur in children are mostly extradural and tubercular in origin. As a whole, there seems to be no predilection of sex.

Tumors that compress the spinal cord may arise from the cord and its adnexa or be metastatic in origin. Approximately 20 per cent of all cord tumors develop within the cord substance and are known as intramedullary tumors, while 80 per cent arise from the nerve roots, meninges or surrounding structures and are classified as extramedullary tumors. Over four-fifths of the latter

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group lie within the dura, and it is with this large group of tumors that we are particularly concerned.

There is a tendency toward an equal distribution in numbers throughout the length of the cord. The thoracic portion of the cord being longer, has more tumors than the cervical, and, likewise, the cervical segments more than the lumbosacral. Fortunately, a greater percentage of tumors occur on the dorsal aspects of the cord than elsewhere, and are, consequently, more easily accessible.

About 70 per cent of all extramedullary intradural tumors are fibroblastomas, which arise either from the nerve roots or the meninges. A small percentage are gliomas and are found most often at the end of the cord or in the cauda equina. Chondromas and blood vessel tumors comprise the greater part of the remainder of intradural extramedullary tumors.

The symptoms in detail will vary according to the location and type of tumor; but, in general, one usually finds disturbance of cord function, either the sensory, motor, or sympathetic elements, together or separately. Sensory changes occur most frequently. Pain is usually one of the first symptoms.

Root pain, which is caused by direct stimulation of one or more nerve roots, occurs early and is a very valuable localizing symptom. It is quite persistent and grossly indicates the segmental level of the lesion. This pain is sharp and radiates along the distribution of the nerve trunk. It may be brought on or exaggerated by bending forward, straining, coughing or sneezing. Another type of pain, known as spinal pain, is dull and aching in character. It is transitory and may occur in the lumbar area as a backache, sacro-iliac weakness, or in the lower extremities as sciatica, and still the lesion be located high in the cord. It is of litle localizing value.

Paraesthesia may, also, indicate nerve root irritation. Numbness, tingling, creeping and burning feelings most frequently progress from below upward, and, are links in the chain of symptoms, but are not helpful in determining the level of the tumor. A level of anesthesia, as found late in the course of the disease, is diagnostic of transverse cord involvement and indicative of considerable compression or destruction of the cord. A band of hyperaesthesia may quite often be found above the anesthetic level. The sensory level may vary from one examination to another. It does not indicate the exact confines of the growth, but it does indicate the level of the maximum cord damage. A spinal puncture with release of fluid beneath the lesion, oftentimes exaggerates the symptoms and helps, on examination immediately afterwards, to clear up some of the doubtful findings.

Motor dysfunction in some form can almost always be found. Twitchings, group muscle spasms, or cramps are evidences of pyramidal tract irritation, usually in the form of early compression of the cord. Spasticity of the extremities indicates a greater degree of compression with incomplete interruption of motor impulses. Paralysis denotes complete absence of motor function and an advanced state of compression of the cord. If both upper and lower extremities are involved, the lesion is located in the cervical region; if the lower extremities alone are involved, the lesion is in the thoracic or upper lumbar portion of the cord. Tumors of the lower lumbar portion of the cord and of the cauda equine most frequently produce group muscle atrophies, foot-drop, or early bladder symptoms. Spastic cord bladder with retention occurs with lesions above the sacral segments; flaccid bladder with dribbling occurs with lesions of the sacral segments of cord or cauda equina. Constipation is not uncommon.

A detailed clinical history and repeated and careful neurological examinations will in most cases be sufficient to establish a diagnosis of a spinal cord tumor and even establish the segmental level. Yet, there are other methods of study now available that help confirm the diagnosis and more definitely localize the lesion. After all, negative explorations have been performed, and so, likewise, patients with cord tumors have been observed too long and some other suspected ailment treated. So, it behooves us to use all the methods at our command to ascertain definitely and quickly the nature and the location of the lesion in order to effect its removal or, if not a tumor, to institute the necessary treatment, whatever the offending agent.

Spinal puncture with spinal fluid studies is perhaps the most valuable of these adjuncts to diagnosis. A block in the spinal fluid pathways, as observed by compression of the jugular veins with retarded or complete absence of the rise and fall of the fluid in the manometer tube, indicates a likely cord tumor or adhesions obstructing the subarachnoid space. Jugular compression, by obstructing the return of venous blood from the cranial cavity, causes a rise of intracranial pressure. The increase in intracranial pressure is reflected through the spinal fluid, and registered by a rise of the fluid in the manometer tube. When the jugular pres-

sure is released the intracranial pressure is reduced and the fluid readily falls in the manometer tube. A spinal fluid pressure of 120 to 150mm. of fluid is normal. The jugular compression test is known as the Queckenstedt test. An increase of total protein of the spinal fluid is, also, significant. The fluid below a tumor is often yellow and clots spontaneously on exposure to air. This is known as the Froin Syndrome. The fluid immediately above the tumor also contains an increase of protein.

A double puncture with spinal fluid pressure readings is often helpful, and in lesions of the cauda equina may indicate the level of the tumor.

Careful and detailed x-ray studies may reveal an increase in size of the vertebral canal, as determined by measurement of the interpedicular spaces. Such evidence correlated with the clinical findings may be helpful in determining the exact level of the tumor.

A further observation, that should be employed when a level cannot be definitely determined, is the injection of 1 c.c. of lipiodol. This oil is opaque to x-ray and can be observed under the fluoroscope as it ascends or descends the cord. A tumor will obstruct its passage completely or incompletely and, thereby, indicates the location of the growth. Lipiodol is harmless but should not be used unless necessary, and never when an inflammatory lesion is suspected.

Time will permit only a brief consideration of the conditions that most commonly arise for differential diagnosis. Degenerative conditions such as multiple sclerosis, and combined sclerosis in pernicious anemia, are readily recognized as more diffuse processes involving the spinal cord, and have practically normal spinal fluid findings. Inflammatory lesions as transverse myelitis and poliomyelitis develop more rapidly, present a different history, and usually reflect some evidence of an inflammatory process in the temperature curve and blood picture. The spinal puncture may reveal an incomplete or complete block in transverse myelitis, and even a high protein content. In poliomyelitis, the fluid shows no evidence of block and usually no increase in protein.

Tumors of the lumbosacral region and of the cauda equina are often mistaken for ordinary "backache," sacro-iliac disease, sciatica, and genito-urinary disease with incontinence and retention of urine. All of these conditions should be considered as potential cord tumors until proven otherwise. A careful neurological examination with spinal fluid studies may readily disclose the lesion. If not, lipiodol injection may be helpful.

One of the most difficult lesions to differentiate is neuritis of the cauda equina. It should be remembered that neuritis occurs more often after the fortieth year of life and tumors more often before the fortieth year. Pain is quite frequently unilateral in neuritis, and is one of the first symptoms noted. Bladder symptoms occur much earlier in the course of the inflammatory lesion, while the deep reflexes are less often disturbed. Neuritis causes very little change in the spinal fluid. The increase in cell count is slight, while total protein is rarely found above normal.

I have selected for presentation four representative cases of spinal cord tumor. Each one is a different kind of tumor, and each tumor involves a different portion of the spinal cord. These four cases illustrate quite typically the clinical pictures of cord tumors in their respective locations.

Case 1. F. K., female, aged 16 years, was referred by Dr. Irvin Abell and Dr. J. M. Keaney of Louisville, Ky., on April 11, 1932. The patient had been enjoying good health until 10 weeks previously, when a continuous burning pain was first noted in the left epigastrium. During the past two weeks the same type of pain became quite pronounced on the right side, and because of its location, gall bladder disease had been carefully considered.

Ten days ago she noticed numbness beginning in the toes and feet, progressing upward, until when patient was admitted to the hospital, the lower extremities and practically the entire abdomen were involved. She noticed at about the same time that it was quite difficult for her to use the lower extremities. For the past three days she had not been able to walk. At the time of examination she could only feebly move the lower extremities. The bladder could be palpated above the symphysis, although the patient had not noticed any difficulty in voiding. The following day it was necessary to catheterize her.

The results of the neurological examination pointed to a lesion of the spinal cord at the eighth thoracic segment.

X-rays of the spinal column showed nothing of importance. The spinal puncture revealed 100 mm. of spinal fluid pressure with a positive Queckenstedt. Globulin was two plus, and the total protein was 135 mgm. One c.c. of lipiodol was introduced in the cistern and its descent observed under the fluoroscope. It came to rest at the seventh thoracic vertebra.

At operation under local anesthesia, the

laminae of the sixth, seventh and eighth thoracic vertebrae were removed. The tumor could be seen bulging from beneath the dura. It arose from the eighth thoracic nerve root on the left side. The tumor was about the size of a hazelnut and had compressed the cord to about one-third its normal thickness. It was easily removable.

The patient made a very rapid and complete convalescence and quickly regained the lost sensory and motor functions, so that within two weeks she was able to walk again. Since then, she has assumed her usual duties and activities, and has no residual motor or sensory disturbances.

Case 2. C. M. M., white, female, aged 48 years, was referred by Dr. David Cohen of Louisville, Ky., on September 22, 1933. At this time, she was complaining of inability to use the lower extremities. Ten months before, she first noticed difficulty in ascending stairs. She felt as though her feet were heavy and occasionally she would catch her toe. Her lower extremities became weaker gradually, and she tired very easily. In a short time, the patient noticed that she had difficulty in voiding, and that there was a painful sensation in the region of the bladder. She had difficulty in controlling the rectal sphincter as well. A dull aching pain was next noticed in the lumbar region of her back, which would occasionally radiate around the abdomen.

Three months after the onset of her symptoms, the patient had an acute hemorrhage of the stomach, and she has received active treatment for peptic ulcer since.

At the time of examination there was a sensory level, very sharply localized at the first lumbar dermatome. All forms of sensation were lost below this level. She could move her lower extremities, but was not able to walk. The neurological examination revealed normal responses throughout with the exception of those referable to the cord. The reflexes in the upper extremities were normal and equal bilaterally. The knee jerks were absent. The ankle jerk was absent bilaterally.

Lumbar puncture studies between the fifth lumbar and first sacral vertebrae showed an almost complete Queckenstedt. The fluid was xanthochromic and coagulated on standing. Lipiodol introduced at this level was blocked at the twelfth dorsal vertebra.

At operation on September 20, 1933, a large tumor mass was found compressing the posterior surface of the cord. The tumor was larger than one's thumb in thickness and about 4 cm. in length. It was adherent to the dura. It was dissected free and the attachment to the dura coagulated with an endothermy unit. The patient made a normal convalescence, going through the usual painful experience of the paralyzed areas regaining sensation. Motor function returned. Sphincteric control of the bowel improved quite rapidly. She was able to walk about in three weeks.

Case 3. S. C., female, aged 31 years, was referred by Dr. A. G. Ellston of Newcastle, Ky., on February 21, 1934. The patient states that for the past 8 years she has suffered pain of varying degree, and for the last few years continuously, in the lumbosacral region. During the past year, this pain has radiated down into the lower extremities on both sides along the dorsal aspect of the thighs. Three years ago, in an attempt to relieve the lumbosacral pain, a uterine suspension was performed. This gave her no relief.

For the past six years, there have been times when patient has found it quite difficult to walk any distance. There were periods when she was much stronger and able to get about normally. Patient delivered a normal baby five months ago. Prior to the delivery and for three months afterwards she was completely relieved of pain and felt much stronger and was able to take care of her own work. For the past two months, weakness of the lower extremities has become quite pronounced. The lumbar pain has become greatly increased.

The neurological findings suggested a lesion of the cauda equina.

The patient was not aware of the fact that her bladder was distended, but knew that she had some difficulty in voiding for the past 2 months. On catheterization, 1400 c.c. were gradually drawn off, and there apparently had been residual urine accumulating for some time. A spinal puncture through three lumbar interspaces did not encounter spinal fluid. A lipiodol injection was made by the cisternal route, and it was found that the opaque oil was arrested at the tenth dorsal vertebra, the upper border of the tumor.

At operation under local anesthesia on March 3, 1934, the laminae of the tenth, eleventh and twelfth dorsal and the first, second, third and fourth lumbar vertebrae were removed. The tumor was visible beneath the dura and in places had protruded through. The upper level of the large tumor mass was at the tenth thoracic vertebra, and the lower portion extended to the sacrum. The tumor infiltrated through the cauda equina, and it was necessary to spend approximately two hours removing it piecemeal. This tumor proved to be an ependy-

moma, a glioma that is oftentimes encountered in the brain.

The patient made an uneventful recovery. Sensation returned in the sacral distribution around the anus and over the buttocks. The motor control of her bladder and rectum returned at the end of ten days. She was able to leave the hospital 23 days after operation. She is able to walk and take care of her usual duties. Deep x-ray therapy was administered later.

Case 4. F. P. H., male, white, aged 50 years, was referred by Dr. Owsley Grant and Dr. Barnett Owen of Louisville, Ky., on August 10, 1932. This case presented the typical difficulties encountered in diagnosis of lesions of the cauda equina.

Three years before, the patient first began having difficulty in voiding. He received a careful urological study and treatment from time to time as required. There was no evidence of weakness of the lower extremities or of muscle groups of the lower extremities.

In 1931, there developed a severe pain in the lumbosacral region for which orthopedic measures were instituted. Relief was secured for a while.

When first seen in August, 1932, the patient had no complaints except those referable to the bladder. A thorough investigation was made in regard to a lesion of the cauda equina, but all clinical and laboratory data were negative, except for the urinary system. The bladder capacity was approximately 1000 c.c. He had to catheterize himself every six to eight hours. Resection of the hypogastric plexus permitted him to void normally and reduced the bladder capacity to 300 c. c.

On March 6, 1933, the patient reported he was suffering from pain in the left lower extremity that corresponded closely to the sciatic distribution.

For the first time there was found a slight hyperaesthesia about the anus. There was a tendency toward a bilateral footdrop. Knee jerks were normal. Both Achilles jerk were absent. Spinal punctures between the lumbar vertebrae failed. The needle could not enter the canal. It was finally introduced between the first lumbar and twelfth dorsal vertebrae. The spinal fluid was clear and contained 120 mgm. total protein. A faint mottling could be made out in the region of the fourth and fifth lumbar vertebrae; widening of the interpedicular spaces of the same vertebrae was evident. One c.c. of lipiodol was introduced, and it was found that there was an obstruction at the fourth lumbar vertebra. Because of the history of a previous operation performed by Dr. John B. Murphy on October 21, 1905, at which time he removed a chondroma from the back, it was suspected that the present lesion might, also, be a chondroma.

At operation, the laminae of the third, fourth and fifth lumbar vertebræ were removed. It was apparent that the previous operator had not attempted to enter the vertebral canal. Extending from between the laminae through the dura into the lumbar canal was a nodular chondromatous growth which had destroyed the dura on the dorsal surface and had compressed the cauda equina at this level, so that they were now only fine filiaments. This chondroma was removed piece-meal without damage to the roots. There was no evidence of a new-growth extending from the bodies of the vertebræ or from the intervertebral discs.

The patient made a normal convalescence and has been able to walk and to carry on his usual duties. He has complete relief of pain. The histologic diagnosis of this lesion was a fibrochondroma.

The symptoms advanced more rapidly in the first case, than is usual for such benign tumors arising from the nerve roots. Ten weeks elapsed between the onset of the first symptom and the development of a total paralysis of the lower extremities. The clinical course of the second case represents more nearly the average.

Symptoms extended over a period of eight years in the third case. The tumor was much larger than the average ependymoma. This case illustrates how few disabling symptoms may occur with tumors in the cauda equinal region. The third and fourth cases should indeed emphasize the point that questionable backaches, sciatica, and many urinary disorders should be carefully considered as probable cord lesions, and most frequently spinal cord tumors.

DISCUSSION

J. J. Moren, Louisville: In 1886 Sir William Gowers diagnosed the tumor of the spinal cord, and it was removed by Dr. Horsley. After this operation Dr. Gowers made the statement that the prognosis of spinal cord tumors was less gloomy after they had successfully removed one tumor. Twenty years later Dr. Starr of New York, after a study of the literature of the cases of tumor of the spinal cord, made the statement that all operations for tumors of the cord were exploratory, and he ended his statement by saying that the operation was a bloody operation. Twenty years later, today, you heard

the report made by Dr. Jelsma, which shows the progress that has been made in the diagnosis and the removal of tumors of the spinal cord. It shows the progress that has been made.

In looking over an experience of forty years of neurological work I can look back and see cases that were unquestionably tumor of the spinal cord, but at that time little attention was paid to surgery.

I recall a case of a man who had received a stab wound of the spine and the knife blade broke off. I spoke to one or two surgeons about operating on him, and they did not encourage me at all and there was no operation done upon that man. Suppose that we had that case today, that fellow would have just about as much chance of escaping an operation as the poor individual with appendicitis. They are prepared, they are ready, their technique is entirely different today, and they can operate.

There has been success in the removal of these tumors. The diagnosis was made but the operative procedures were difficult, but with the improvement of the technique they can go in now and operate upon cases of spinal cord tumor just like they are operating upon brain, with comparative ease and with results.

When I look back over clinical experience, the signs we have today are practically the same we had twenty or thirty years ago, but they have been brought together, they have been correlated, we understand them better, and in addition to that we have had the benefit of the study of the cerebro-spinal fluid and we have the benefit of the x-ray. Those two are the great real advancements that have been brought forward in the diagnosis of spinal cord tumor. They are wonderful helps. In many instances the diagnosis practically depends upon these findings.

I recall an instance where the symptoms were typically motor, there was nothing that was localizing at all, but with the addition of the injection of lipiodol and x-ray the tumor was located without any trouble at all and was verified by operation, the operation was a success and the individual lived a number of years afterwards and was able to get around on her feet.

W. Barnett Owen, Louisville: It is needless to say that we are indebted to Dr. Jelsma for a very excellent presentation.

The symptomatology and diagnosis of extramedullary tumors of the spinal cord has just been presented to us clearly and completely. Dr. Jelsma has impressed us with the extreme value of taking a careful history and of making a thorough clinical examination of all cases suffering with backache and those complaining of neurological and vascular disturbance of the extremities.

The recognized methods employed are simple and reliable.

Many of such cases have consulted us primarily, and I must say that we are most grateful for the invaluable assistance afforded by Drs. Spurling and Jelsma. Some of the cases have proven simple to diagnose and others have proven most difficult to differentiate. As in all pathological situations, the earlier the diagnosis is made and proper treatment instituted, the more favorable the prognosis.

TUBERCULOSIS A PUBLIC HEALTH PROBLEM*

By Luther Bach, M. D.

Bellevue

Tuberculosis is an infectious disease, caused by the tubercle bacillus as demonstrated by Robert Koch in 1882. Infection must take place in the human body by the conveyance of the tubercle bacillus from a person or animal with open tuberculosis to the newly infected person. The most important modes of this infection are by inoculation, by inhalation and by ingestion. It is clear that the mode of conveyance in the majority of instances is by means of the sputum from a person with open tuberculosis, either directly or indirectly, since the bacillus has no natural habitat outside the body and is readily killed by outside agencies. However there is no organ or tissue in the body in which the bacillus may not be found, but some tissues are much less commonly infected than others.

Infection through food particularly in drinking milk from tuberculous cows has been demonstrated as the cause for over 50% of the cases of abdominal tuberculosis in children.

Individuals vary greatly in their response to infection; this variation is one of the most important factors in tuberculosis, how some unknown etiological factor at work alters the resistance of individuals to the disease. It has been demonstrated in many of our larger universities that the vast majority of the students harbor tubercle bacilli somewhere in their bodies; but, fortunately a much smaller percentage present symptoms of the disease. Why do some individuals carry the bacilli in their bodies for

*Read before the Campbell-Kenton County Medical Society.

many years and never know that they are infected while others develop the disease from practically the same infection that in others remained localized? The answer is in the nature of the host, "something" which we speak of as resistanee.

The mortality statistics show a much higher rate for city dwellers than for those who live in rural surroundings. The statement has been made that poverty and tuberculosis go hand in hand. This statement is proven in large cities where the highest mortality from tuberculosis is found in the poorest section. Bad ventilation, insufficient light and general filth will keep the bacilli alive so that the chances of infection are enormously increased; yet it is a common disease even among the more fortunate class and no class of society is exempt.

A report of routine x-ray examination during the college year of 1930-1931 in Yale University of 1602 examined, showed shadows of threatening character in 30 or 1.9% and shadows of more than casual infection in 283 or 17.7%. It is interesting to note that none of the 30 showing shadows of a threatening character were suspected on the routine physical examination.

Examination of approximately 6000 students in the University of Minnesota, revealed 40 cases of manifest tuberculosis. A similar survey of 2784 freshmen in several eastern colleges showed that about one out of each 200 examined had definite though not in all disabling tuberculosis, which is sufficient evidence to show that it is not limited to the more unfortunate class.

Tuberculosis is a common disease and the necessity of being on the alert to discover it devolves upon all physicians without regard to specialty or locality. A carefully recorded history often gives a clue to the diagnosis. In order to make a satisfactory examination the examiner should not be rushed for time; lack of time and hurrying through an examination are the causes of more erroneous diagnoses than lack of knowledge or skill in examining. It is necessary to consider history, symptoms, physical findings and the results of special tests. Experience and good judgment are our greatest assets in these cases. Early tuberculosis of the lungs must occasionally be diagnosed upon probabilities rather than from certainties. The one positive evidence is finding the tubercle bacillus in the sputum. The most important addition to the method of physical diagnosis of tuberculosis is the roentgenologic study of the chest. It should not be considered a thing apart but only an addition to former methods, helpful when used in conjunction with history, symptoms, and the physical examination, and like all methods it is not infallible. The use of tuberculin test is valuable in the examination particularly of children. Tuberculin shows its specific action only in the presence of tuberculosis in the person tested. It is helpful in routine examination of large number of pupils in being able to eliminate certain individuals from observation. A positive tuberculin reaction does not necessarily indicate an active disease, but does indicate that an infection has been or is now present. The test is a simple, harmless, practically painless skin test which shows whether or not there are tubercle bacilli in the body.

The accepted method for the control of communicable diseases embraces immunization of all susceptibles, in cases of those diseases for which immunizing agents have been developed. In the case of tuberculosis, no definite method of immunization has as yet been found by medical science and the only effective method for its control is by isolation of carriers; this must include all potential cases especially children who show definite evidence of tubercle but who have no bacilli in the sputum or other evidence of the disease.

The mortality from tuberculosis has shown a steady decline for the past several years, but we have no figures to prove that any of the preeautionary methods which up to the present time have been emphasized, have had a noticeable effect, and the positive reactions to the various tuberculin tests still show that the vast majority of persons of adult age harbor tubercle bacilli somewhere in their body. This is not any reason for lessening our efforts to prevent infection.

Tuberculosis is acquired by the direct transmission of the tubercle bacillus from the sick to the healthy, therefore tuberculosis should be dealt with as other infectious disease.

The care of the tuberculous patient in the home offers little promise of desirable results. This is not due to the treatment advised but the treatment actually followed by the patient. Deviations from the proper treatment soon lead to concessions taken by the patient until the ultimate home treatment amounts to no treatment at all.

The sanatorium care is the ideal in giving the patient a chance on life and in preventing the spread of the disease. Explanation to the patient of the educational advantages of sanatorium treatment and acquisition of knowledge pertaining to oper-

ative procedure are often enough to convince both the patient and his family that treatment in a sanatorium is imperative.

Solution of the financial problem depends upon either the provision of sanatoria in the community or the gradual education of the public to the necessity for this form of treatment. In the state of Kentucky there are approximately 600 beds for tuberculous patients and 450 of this number for Jefferson County in the Waverly Hills Sanatorium which are free for residents of that county. The Julius Marks Sanatorium Lexington, Kentucky has free beds for patients from Fayette county. For the remaining 118 counties in Kentucky approximately 80 beds are available. The Hazelwood Sanatorium of Louisville is a state-owned institution. has 12 free beds and about 28 part pay beds. In 1933 there were 2266 deaths reported in Kentucky from tuberculosis and based on a conservative estimate more than 13,500 cases of tuberculosis in the state.

Statistics show that the average length of stay in a Tubercular Sanatorium is six and one half months, and that the average cost of maintenance is $17.50 weekly. The entire appropriation for tuberculosis work in Kentucky for the year is $87,500.00 or approximately $6 50 for each case in the state.

Compare this to other expenditures in Kentucky.

On June 30, 1934, there were 5989 inmates for the three state hospitals for the insane and per capita cost of operation was $122.68. There were 709 inmates in the Feeble Minded Institute and the per capita cost was $201.64. This is money well spent and these unfortunates should be cared for, but so should our tuberculars.

When a few cases of diphtheria, cerebrospiual meningitis or infantile paralysis appear in our midst the public becomes greatly excited and seeks means of prevention, but here we have a disease which takes a heavy toll from our midst every year and we have done very little to prevent it.

The Bureau of Vital Statistics gives us some very interesting figures in the number of deaths from tuberculosis in Campbell-Kenton Counties during the past five years, as follows: 1930, 99; 1931, 98; 1932, 119; 1933, 97; and 1934, 100; an average of 100 deaths per year. An accurate estimate of the number of cases in Campbell and Kenton Counties is impossible, due to our failure in reporting such cases to our health departments, and also the fact that a large number of these cases have not been recognized or else have never consulted a physician. Basing an estimate on the average as given by Dr. Fisher of Yale, who is perhaps one of the most conservative estimators, we have approximately 600 cases of tuberculosis in these two counties.

Kenton County has made a forward step in this work in an effort to establish a hospital for its tuberculous patients and deserves much credit for the accomplishments thus far. Unless the Medical Profession takes the lead in advancing our own cause and presenting these needs to the public with plans that may materialize, what else may we expect than eventually the passage of some form of Social Insurance or Sickness Insurance under the disguise of meeting these needs. Such bills as the Wagner Social Insurance Bill, or Epstein Social Security Bill are taking advantage of the slowness in the profession's failure to meet the demands of the public; some of these bills sponsored we know have neither the welfare of the patient or the profession at heart.

Our problem is one for the Medical Profession of Campbell and Kenton Counties to work out, that the proper treatment and hospitalization may be afforded those who are afflicted and give them a chance for recovery, and last but not least a protection for those who are not yet infected but who will sooner or later become victims of the disease through exposure to these carriers.

Treatment of Ulcerous Colitis with Blood Transfusions.—Hulst and Hartog administered from 400 to 500 cc. of citrated blood, comprising from 40 to 50 cc. of trisodium citrate at 2.5 per cent, to four patients presenting ulcerous colitis. These transfusions were administered only after dietetic and medical treatment had been tried and found wanting. The authors maintain, however, that even after transfusion the patients should adhere to a strict diet. Transfusions were given three weeks apart. If several transfusions from one donor did not offer appreciable results, the blood of another donor was injected. Two patients evinced immediate improvement, while the other began to improve only after repeated transfusions. A negative result did not occur in any case. The others did not rapidly respond to treatment. They are at a loss to explain by what mechanism the favorable effect is procured.

SOME THOUGHTS ALONG THE ECONOMICAL SIDE OF THE PRACTICE OF MEDICINE*

G. G. Thornton, M. D.

Lebanon

As a preface to this paper, I wish to show that I have some reasons for believing that some doctors have need, or have needed, to give some thought to the subject, if not to the substance of this paper.

First, I am told that, recently a doctor of considerable prominence in the city of Louisville, died and that his medical friends furnished the funds with which to bury him, besides he left a widow and children with nothing to live on.

Again I am told and I am sure of its correctness that a doctor who has a nicely equipped office suite in one of the office buildings of Louisville, with office girl and assistant was compelled to give his car up to a finance company because he could not meet his bills on same.

I am also told by a collector for one of the large stores in our cities, that a prominent doctor has to be seen often about a bill of less than a hundred dollars and that he pays, when he does pay, by installments of ten dollars and then again I saw a statement in a magazine sometime ago saying that at that time, in the City of New York, there were 150 doctors standing in line at the relief stations looking for help.

That the practice of medicine and its collateral branches has many interesting and attractive angles from which it may be viewed, I feel sure all will agree. There is the scientific side on which much has been written and on which much progress has been made within the last century and then there is the superstitious side, which has been connected with the profession all down the ages and which has served to retard, to a very considerable degree, its advance but which is now rapidly giving way to the psychological side which may be of great assistance in the management of certain neurological conditions.

There is the altruistic side, which spurs the doctor on through heat and cold, night and day, forgetful of himself and his health and family, to relieve sickness, suffering and distress, causing him to often forget that there is another side to his calling, which although it is seldom spoken of in medical meetings, is of great importance to the profession as well as to the laity. And that is the business side.

Now if you will excuse me for the apparent uppishness of butting into this program at this time without any invitation and unexpectedly and without any special ability to present the subject I shall, because of the previous neglect of this subject in medical meetings bring up the subject hoping thereby that I may provoke a discussion, which will place this subject in a prominence which it deserves, especially with the general practitioner. I think probably the surgeon and others who specialize may not be so much interested in this phase and if they are not, possibly they may lend a sympathetic ear and give some assistance to the humble general practitioner.

Back when I first began to practice medicine, it was no uncommon thing to hear the statement that the doctor charged the man who could pay enough to pay the bill of his neighbor who could not pay, and thus evened up things. Now this may have been fairly satisfactory in days gone by but I never tried to put it into practice, and feel sure that however satisfactory that might have been to the man who did not pay that it did not set very well with the man who did, if he found it out. Now we are living in an entirely different era, and with the new era, and new deal, we are brought face to face with a problem, which is up to us to solve, or to suffer the consequences. Of course we have always had the charity patients and we will always have them and I am sure all of us are willing to do our part, but it is my contention, that our profession is under no obligation to do our part of the charity work along other lines and then do all the medical service charity, no sir, but let us help as the rest of those able to help and divide the burden up fairly even.

Just here I may call to your attention that under the economic trend for the past few years the charity class is increasing rapidly and the able-to-pay class is diminishing just as rapidly, and many of these with most of their sickness, or complaints will rush off to Louisville or to the Mayo's and from Louisville they go to New York or Chicago and from New York they go to Berlin or some other point with a higher reputation. At the risk of being egotistical I am telling you that I have the reputation of being a good collector, but I endeavor to impress on my patients that I am just as good a doctor as I am a collector, by having at the head of my bill heads the following legend: "By prompt payment of your doctor you enable him to render you prompt and efficient services."

On proper occasions I talk business to them, and tell them some of my rules that I observe like this: that I divide my clientele into three classes. Number one

*Read before Muldraugh's Hill Medical Society.

which I believe will pay me as soon as they get it and Number two, that will never pay me and that I do not send either one of these classes a statement because it would worry unnecessarily the first and worry and cost me something in the second class, but the third class that will just let the account drift along and never pay if you don't send a statement to them.

I explain to them that I may sometime get an individual in the wrong class but that I can at any time change them to the right class.

Do you wonder how I manage the one who can pay me and will not? Oh yes, I will gladly tell you that. Do you think when he calls for me that I tell him that I am busy or that I have a call to go to another place and that I just had my hat in my hand and was ready to start several miles in an opposite direction? No, I just tell him that I can't come and if he inquires why, I just say that you will not pay me. That is what I have said more than once and 4 or 5 years ago when I told a man that he told me that he had $1500.00 worth of tobacco and could pay me any time. I immediately went to the police judge and had an attachment run on his tobacco and got my money in less than a week. And of course you are sure I lost that man's practice and his influence, but I did not and am still doing his practice, though he failed to come across last year owing to the low price of tobacco. Here is another case. There was a family in my town who patronized me some and three or four other doctors some, and I inquired of the other doctors and they all told me that they did not pay them any, so with a disposition to tote fair I continued to do their practice without pay when they called and attended the husband when he died, but if he had any estate it was all smuggled up amongst the heirs, all of whom were of age. I continued to practice for the widow until one night along about 2 o'clock she called for me and I told them I could not come, feeling that some of the other doctors should help me out at this particular hour. I went back to bed feeling some one else would answer my call, but to my surprise next morning they called for me again and said if I couldn't come or wouldn't come they would have to get some one else, and I replied that I had supposed they had already gotten another doctor but that I would be there shortly and I did. The old woman was sick but she seemed to want to quarrel with me because I had not come during the night and she seemed so persistent on doing so that I told her that she was going to make me do something that I did not want to do and that was to tell her just why I hadn't come and I did. I explained that I had practiced for her son, her son-in-law and for her husband and for her herself as much as fifteen years ago and that none of them had ever paid me any and that I felt that if she got my services for nothing in the day time she should certainly not expect me to work at night. She expressed surprise and asked me if I had practiced so long ago for her and said she did not remember it and I told her if it had been so long ago that she had forgotten it that that made it even worse. She then said that they just couldn't pay it and I told her that they did not even tell me that they would like to pay it. She then said, "well what will poor people do when they get sick and the doctors won't come?" I then said to her that I could tell her that if everybody who had patronized me for the last 15 years had paid me like her family had paid me and if everybody who had patronized other doctors for the past 15 years had paid them as she had paid me during that time that there would not be a doctor in town and in that case they would have to do without a doctor. I told her that I did not want to say these things to her but that she had forced me to say them but that hereafter if she needed me and wanted me and would call me in the day time I would come whether she paid me or not, but that I did think she should not disturb my sleep without paying me. Well now, I imagine you saying you will never do any more for her, besides she will talk about it. In a few days she called my home and left word with my wife for me to come up to see her that she wanted to see me on business and I did not go and told my wife that I did not want to go to quarrel with that old woman. However a few days later as I was coming into town and turned a corner, she was standing on the corner and seemed to be headed for town. I stopped my car and threw open the door and asked if she wanted a ride and she said yes, that she was going to my office, and I supposed I was in for it—and I was, she wanted to pay me. I looked over my books and hunted up everything I could find for the past fifteen years and she gave me a check for the full amount and now you feel like she was done with me for good, —well, she was not and when she needed a doctor so far as I know she always called me and always paid either in cash or by check for every visit before I left the house, except for the last visit I made and I am sure that when she passed to the Great Unknown that I was the only doctor that they had ever patronized that they were near even with.

I don't send out many statements, but I manage to let every one know that I am ex-

pecting to collect and some times when it is convenient I tell them of the man who asked his doctor if he never sent a gentleman a statement and got the reply that he didn't and when the man expressed surprise and asked how he managed and the doctor replied that he waited till he found out that he was not a gentleman and then went after him.

By telling the man who pays his bills how you act regardnig the man who doesn't pay, it makes him understand that he is not paying the other man's bills and thus gives him some satisfaction in knowing, that so far as you are concerned, that you aim to let every tub stand on its own bottom.

Another thing we can do and which I make it a practice of doing, when a stranger calls me in, is to learn where he is living and where he has lived and who has been his physician, and then write to that doctor and enclose a self addressed stamped envelope with a request in confidence as to just what his experience has been with this person. If he has been fair with other doctors it is fair to presume that he will be so with you and then you will know how to proceed. I don't mean to be hard on God's poor nor the Devil's poor, but I do not believe in being imposed on by the poor devils without a protest, and by protecting the profession against these we can more wholeheartedly give our services to those deserving it.

There is one other thing in which we should take an interest in that will be of benefit to the profession and all humanity though that is such a big task that I will only mention it that you may meditate on it at your leisure, and that is the political economics which in the past has tended toward the making richer and richer a few and to the making of many poorer and poorer. Progress in this direction a few years more and the profession will be ruined and the country will go on the rocks.

If every doctor would do just a little along the line of improving the business ends of the profession it would help to relieve us of the barnacles which hang on to us and to deadbeat us and rid us of the fellows who sometimes make the boast that they have always had good doctors and that they never paid any of them—by patronizing one as long as he would come without pay and then change to another and when he quit have another and if necessary change to another town and work the same thing with the doctors in that town.

A good rule to adopt is to give honest efficient services and to charge for it commensurate with such, always doing unto the other fellow as you would have him do unto you if the circumstances were reversed and insisting on him doing the same to you, unless he does it voluntarily.

There is much educating that all of us can do in the way of giving the public a proper view point on the business side of our profession by explaining to the farmer or business man who thinks and says that doctors make their money easy and have generally a good time.

Here is the way I explain it to the farmer: you have your money invested in land, horses, cattle, sheep and hogs and farming utensils and if you were to die your wife could have a sale and sell it for its market value and realize as much for it as you could, you work not over six days in the week and have the nights for your rest, you go to the county courts, to all the sales in the county and state fairs, to the shows and your crops grow the same whether you are asleep or awake. I have my capital investment in an education, books, medical journals, office fixtures and equipment, which would be worth practically nothing to my wife or estate if I were to die and with me living, it depends on my keeping my health, my eyesight, my hearing and my right mind and my disposition to work, not just all day every day, but night and day any day and every day, and not to be my own man, but somebody else's man anytime, rain or shine, cold or hot, night or day, tired or rested.

I explain to him that when he is out driving on his pleasure trips and chances to meet me on a good road that he imagines, that all of my calls are on good roads, and to see people who are not very sick and that all the sights I see are pleasant, that all the voices I hear are those expressive of mirth and pleasure and that all the smells that greet my olfactory nerves are those equal to or superior to the attar of roses. I explain to him that I have made a living by working during the day but that for every dollar I have that I have made it or its equivalent working while other people were asleep.

Hypophyseal Hormones of Carbohydrate Metabolism and Fat Metabolism.—Anselmino and Hoffman describe a method permitting with simple means the separation of the hypophyseal fat metabolism hormone and carbohydrate metabolism hormone. The method takes advantage of the fact that, although both hormones are ultrafiltrable in the neutral reaction, they lose their ultrafiltrability in certain cases. It was possible to influence with the separated hormones the hepatic glycogen and the ketone bodies in the blood of rats independent of each other. The purified hypophyseal hormone of the fat metabolism increases the ketone bodies in the blood without influencing the liver glycogen. The purified hypophyseal hormone of the carbohydrate metabolism reduces the glycogen content of the liver without increasing the ketone bodies in the blood.

FEEDING THE DIABETIC*

L. Lyne Smith, M. D.

Louisville

The principles involved in diabetic feeding must conform to the objectives desired, which is, the relieving of the strain upon an already overburdened pancreas. This objective may be obtained by giving a caloric intake composed of carbohydrates in quantities enough to prevent acidosis; proteins in amounts necessary to maintain the nitrogen balance; fats sufficient to meet the caloric requirements. These basic food elements are demanded by the body metabolism to promote growth, development, activity and cell replacement. In turn, they must be activated by those mysterious substances, the vitamins, and certain inorganic compounds also derived from our foods, called the minerals.

These minerals are necessary to the diabetic, especially the child diabetic, in whom acidosis is so common. The impression today is: that acidosis is the greatest obstacle to the proper utilization of the minerals by the body. This impairment of the mineral metabolism is demonstrated by the presence of anemia, bone disturbance, bad teeth and delayed growth. Sodium, iron, copper, phosphorus, manganese, magnesium, potassium, chlorine, iodine, fluorine, sulphur and calcium each have a special function and all play their part in the role of nutrition. Calcium acts as the general regulator of all the mineral reactions in metabolism. No matter what disfunction in the utilization of the minerals may be present, calcium can reestablish the normal balance. It has been said that as insulin controls the glucose metabolism, so in turn do the parathyroids regulate the calcium needs of the body. The so called calcium-phosphorus balance is especially needed during childhood and adolescense, and the ratio between calcium and phosphorus is about two of calcium to one of phosphorus. Any interference with this balance has a tendency to slow up growth and activity. Where the phosphorus intake is diminished, there is poor brain growth, lack of muscular and tissue development, while an insufficient supply of calcium is demonstrated by bad bones, and rickets.

It must not be forgotten that the vitamins are also necessary to promote growth and development, to prevent gastro-intestinal upsets, certain eye disorders, neuritis, loss of weight, et cetera. Vitamin A deficiency must be avoided because of its protective influence which applies especially to the upper respiratory diseases. This resistance to infections seems to be accomplished through the stimulation of cell activity, and probably also by its influence on the calcium metabolism. A reserve supply of Vitamin A is stored up to meet the body requirements and this supply is usually sufficient to last several weeks.

Of all the vitamins, probably vitamin B is most needed by the diabetic because it regulates the motor power of the large and small intestines and exerts a control upon the nervous system through its anti-neuritic and pellagra factors. High protein diets prove better growth producers if they contain liberal supplies of this vitamin. Some of our vitamin enthusiasts claim that even the blood sugars are lowered by this vitamin and that an insufficient supply soon produces a hypertrophy in the Islands of Langerhans. At any rate, this vitamin is closely associated with the carbohydrate metabolism.

Vitamins C, D, and E are so abundantly present in the diet now given the diabetic that they may not be particularly considered due to the fact that their distribution is so liberal in leafy vegetables, meats, eggs, dairy products and our various cereals and fruits. Incidentally, the dairy products should be given consideration, especially during the winter months. At this time, the cows are not on pasture and if there is an insufficient supply of green food stuffs, the milk may be low in vitamins, especially vitamin D. Consequently our diabetics at this time of the year will need some form of cod-liver oil or some of its new concentrated derivatives which are now on the market.

Diabetic diets should consist of a liberal intake of cellulose and roughage to combat the constipation which is generally present. For this reason, also, light exercises, abundant sunshine and outdoor air are to be encouraged, not only for their beneficial effects on constipation, but also for the additional stimulation given to the pancreas in producing more insulin for the carbohydrate metabolism.

A water balance should always be maintained and it must be remembered that children need a great deal more water than adults bacause of their rapid growth. The retention of water in the body is influenced by the thymus gland. The secretion from this gland stimulates the colloids of the body to take up more water.

I wish to emphasize this fact: that the food given these people must be palatable, hence good cooking is necessary. Diabetic flavoring agents may be used and if it not contraindicated the use of condiments is justified.

*Read before the Kentucky State Medical Association, Harlan, October 1-4, 1934.

Attractive trays, clean dishes, hot food when it should be hot, are little things which become of great importance in the feeding of the finicky patient.

The general trend to-day in formulating these diets is to approach nearer the normal diet of man and to furnish these diabetics with sufficient calories to meet their energy requirements. Expensive proprietary food products have been discarded and replaced by the type of food such as is usually found at the average table. The use of such foods has an advantage not only because of their cheapness, but also because they can be secured at the nearest grocery.

No matter how correctly the diet may be balanced, the caloric needs of the body must be supplied, otherwise poor growth and development will follow, and for this reason it may be well to consider something of the normal requirements necessary for the average man. It has been estimated that in women the energy requirement in calories is about 4-5 that of men. The following table gives a brief general idea of the energy requirements needed for the average man, woman and child.

Class	Energy requirements
Average man	3000 calories
Average woman	2500 calories

Atwater gives the following table for energy requirements:

1. A man without muscular work needs 2700 calories.
2. A man doing light work, 3000 calories.
3. A man doing moderate work, 3500 calories.
4. A man doing severe muscular work 4 to 5000 calories.

Children under 2 years need 0.3 as much food as man; children from 2 to 5 years need 0.4 as much food as man; children 6 to 9 years of age 0.5 as much food as man; children 10 to 13 years of age 0.6 as much food as man. Girls 14 to 16 years of age need 0.7 as much food as man; boys 14 to 16 years of age need 0.8 as much food as man.

There is a certain amount of fuel and energy needed by the body during rest and sleep and the number of heat units necessary for the body metabolism varies with the age, sex, height and weight of the individual. The amount of food in calories found necessary to be given is called a basal requirement diet. It has been definitely established that an adult with average nutrition will require about 25 calories for for each kilogram of body weight or 11.5 calories per pound. For all practical purposes such an estimate is sufficient for the day's ration. However, if we desire to be more exact in our calculation to determine the basal metabolism of an individual we must first find out his square meter surface area space. If we know the height in centimeters and the weight in kilograms, the surface can be calculated by the following Dubois-formula: square centimeter surface area space equals kilograms body weight raised to the power of 0.425 times height in centimeters raised to the power of 0.725 multiplied by the factor 71.84. This equation can be solved very simply by logarithms. Also considerable accuracy can be obtained by using the Aub-Dubois charts for calculation which will furnish a fairly accurate estimation of the square meter surface area space. When this has been determined, use the following Dubois tables for estimating the calories per square meter of body surface, per hour.

Age in years	Males	Females
14-16	46.0	43.0
16-18	43.0	40.0
20-30	39.5	37.0
30-40	39.5	36.5
40-50	38.5	36.0
50-60	37.5	35.0
60-70	36.5	34.0
70-80	35.5	33.0

The amount of protein necessary to promote the growth of the body and replacement of nitrogenous waste has been estimated to be from 2-3 of a gram to 1 gram for each kilogram of body weight. These figures are especially safe for the diabetic, many of whom are developing arterio-sclerosis, and excessive amounts of protein above these standard figures hasten this process. Higher percentage of protein will not permit a fat increase sufficient for a maintenance diet without danger of producing an acidosis. Lower quantities of protein for the adult, such as 20 to 30 grams a day, cannot be used for long periods without affecting the general health of the individual. The consensus of opinion is that 44.4 grams of protein per day is the minimum requirement for adults. It is safe to consider that the lowest protein intake permissible for health is that amount which will keep up a normal temperature and normal metabolism. Low protein diets in children are demonstrated by the interference to growth. In older people the principal signs of such deficiency are edema, pallor, slow pulse and a lowered metabolism. High protein diets, in which the metabolism is accelerated, are equally unsatisfactory. This necessarily increases the severity of the disease.

The protein should be of mixed origin, that

is to say, they should be obtained from both the animal and vegetable kingdom. Animal proteins are readily absorbed with practically no waste. It may be well to remember that the proteins are the first of our foods to be utilized in the intestines, and just as much is oxidized as has been absorbed. Meat as a source of nitrogen has many advantages over vegetables. It is quickly digested, rapidly absorbed, and satisfies the hunger more completely than any other food. The stimulating effects of meats are not found in vegetables. No other food can compare with meat in the formation of the Castle hormone. This hormone stimulates the bone marrow to make red blood cells Animal protein contains all the structural elements needed for the manufacture of hemoglobin. In contrast, the vegetable proteins are much richer in nitrogen than meats but poorer in carbon. They also contain larger quantities of sulphur, and it is this last element which must be considered in dealing with the intestinal irritation and gaseous distention of the bowel. When the source of protein is largely dependent upon vegetables, there is a bulkiness of the diet which in turn distends the stomach and intestines.

The fact has been established that physical exercise has no great influence upon the oxidation of the proteins. The caloric needs of the body are satisfied at the expense of the carbohydrates and fats. The dynamic energy of the proteins requires these two elements of food which act as protein sparers.

Metabolism demands a certain amount of starches and sugars which are easily obtained and readily converted into heat and energy. During digestion all the carbohydrates are changed into simple sugars, and with the exception of galactose are readily absorbed. As they pass into the small intestine, they are taken up by the capillaries and thence through the portal vein which carries this blood rich in glucose to the liver. On reaching the liver, the glucose is converted into anhydrid glycogen and stored as such in the liver cells. This is a starch but by the addition of a molecule of water, it is again doled out to the blood stream as glucose to meet the demands called upon the liver for heat and energy. Some of this glucose is oxidized and the balance unused is stored up in the muscles again in the form of anhydrid glycogen. The storage of glycogen in the body is said to be about one pound. It is this storage of glycogen in the body that is necessary to meet extraordinary energy needs in order that the proteins and fats may be spared. When one gram of glucose is oxidized in the body, it is said to affect the combustion of from 1.5 to 2.5 grams fatty acid. Hence a diet for the diabetic must be arranged so that the total glucose is in such quantities that their relations to the fats must be somewhere near a ratio of from 1 gram of glucose to 1.5 to 2.5 grams of fatty-acid. This is necessary in order that acidosis may be prevented.

Fats are of vegetable and animal origin. The vegetable fats are oils and the animal fats are the solid forms of fat. Fats are very rich foods, difficult of absorption and if in excessive amounts interfere with the mineral metabolism. It is the solid fats, such as lard, suet and bacon that are usually the cause of gastro-intestinal upsets. Cream, butter and salad oils such as olive oil, mazola and wesson oil with the exception of butter all have a lower melting point than those solid fats, and are usually better assimilated. Individuals of tardy digestion, accompanied with the insufficient gastric acidity can usually assimilate these fats if given near the end of the meal. The storage of fat in the liver in high fat diets may interfere with the storage of glycogen. On the other hand low fat diets are productive of respiratory infections and predispose to rickets in children. In a normal diet, from 20 to 50 per cent of the total calories should be composed of fats and the future diabetic will probably have only a slight elevation from the above percentage in the diet. According to Dr. Priscilla White diabetic children at the New England Deaconess Hospital are receiving from 35 to 60 per cent of the calories in fats, and these children are having no evidence of demineralization by roentgen ray examination, and an excess of cholesterol is of rare occurrence.

An allowance must be made in diabetic children for their growth and activity. Normal growth occurs when their diets are made from 30 to 40 per cent above the basal metabolism. We must take into consideration requirements for their special activity, some children are studious and the inclination of the diabetic child is to be that of a student. We must take into consideration a caloric increase for activity and inactivity. It is the rule to allow a 10 per cent increase in the diet for very active children and 10 per cent decrease in the diet for the inactive ones. Undernutrition must be always considered but probably over nutrition causes our greatest stumbling block in controlling the disease. The overweight diabetic requires more insulin to control the disease as all these cases belong to the more severe diabetic class.

Coma is more common in these children due

to their tendency for the development of imperfect fat metabolism. It is extremely necessary to promote body growth and development in these children and a safe estimation for the amount of protein to be given is that of from 1.8 grams of protein to 2.3 grams per kilogram of body weight to 7 per cent of the total calories in infancy and 10 per cent to 20 per cent in older children. A table used at the New England Deaconess Hospital for the average amounts of carbohydrates, proteins and fats per kilogram of body weight in children from 1 year to 15 years of age has proven very satisfactory to me.

AVERAGE AMOUNTS OF CARBOHYDRATES, PROTEIN AND FAT PER KILOGRAM OF BODY WEIGHT AND AGE OF 197 DIABETIC CHILDREN IN 1930

Age Years	No. of Cases	Carbohydrate gm. per kg.	Protein gm. per kg.	Fat gm. per kg.
1-2	1	3.4	2.3	3.9
2-3	4	6.8	3.7	5.0
3-4	5	4.9	2.7	4.4
4-5	6	6.1	3.1	4.0
5.6	9	4.6	2.9	3.7
6-7	14	5.4	2.9	4.7
7-8	15	5.2	2.9	3.9
8-9	16	4.6	2.6	4.0
9-10	13	3.5	2.3	3.3
10-11	18	3.6	2.6	3.3
11-12	13	3.1	2.2	3.2
12-13	21	3.1	2.0	3.2
13-14	29	2.9	1.7	3.0
14-15	33	3.1	1.7	3.0

In the adult obese diabetic it is the rule to give from 1 gram to 2.5 grams of protein per kilogram of body weight. However, it is my endeavor to give protein in quantities for their ideal weight rather than for their actual weight. We must remember that the excess weight of these people is composed merely of fat and water and the caloric intake should be somewhere near their actual weight, as it is not my idea to make too rapid weight reduction for fear of the abnormal fat metabolism producing acidosis. Probably the most important procedure in the treatment of these obese diabetics is that of a gradual weight reduction. My rule is to reduce the diet in calories sufficient to secure a loss of 8 lbs. the 1st month, and 4 lbs. each month thereafter until the ideal weight has been obtained. This loss of fat has a great influence upon the blood sugars. In mild cases the blood sugars are often reduced to normal percentages and remain so as long as there is no increase above the ideal weight. In some cases the diabetes seems to be completely controlled and the administration of a standard tolerance test fails to produce a typical diabetic curve.

It is to Dr. Woodyatt that we are indebted for the idea of liquifying the diet. In cases where there is illness or other interference to the diabetic meals which require a change in diet, it can be liquified by the use of whole milk, buttermilk or orange juice. Only a very simple procedure is necessary. Determine the total glucose of the diet in grams for one meal, add two ciphers and divide by the percentage of glucose in 100 grams of the liquid diet. As an illustration: a meal contained 35.5 grams of glucose divided by 7.1 which is the number of grams of glucose in 100 grams of milk, the quotient will give 500 grams of milk to be used in place of the regular meal, and divided if desired into one or more feedings.

In diets at or below the basal requirements a higher fat intake can be used which does seem to more quickly free the urine of glucose. After 50 years of age reduce the diet 10 per cent in calories below the needs of an adult of the same kilogram weight. Diets are raised above the basal metabolic requirements by allowing a 30 per cent raise for ordinary vocations and from 40 to 50 per cent for unusual occupations requiring large amounts of food due to hard labor work.

Quick exchanges of articles in the diet can be rapidly made by estimating the total glucose of several food substances, as for example: the glucose value of an egg is approximately 4 grams. Similar values are found in 56 grams of whole milk. 25 grams of cottage cheese, 55 grams of average cream, 20 grams of any lean meat, 13 grams of English walnuts, 18 grams of Brazil-nuts and 10 grams of peanuts or peanut butter. 15 grams of oatmeal, dry weight, has a glucose value of approximately 12 grams. Similar values are found in 20 grams of white bread rye bread, graham bread, Jewish rye bread, whole wheat bread or wheat bread, 15 grams of cream of wheat, dry weight. 15 grams of corn flakes, 13 grams of puffed rice and 46 grams of rice cooked.

Having determined the amount of carbohydrate, protein and fat to be given for one meal, I wish to suggest the following rules which have proven very satisfactory to me in converting these elements into different food substances. First, use up all of your carbohydrates, second, proteins and last, fats. To find how many grams of a food are required multiply the grams of the element needed by 100 and divide by the percentage

figure for that element in 100 grams. Second to find the grams of an element in a given amount of food multiply the grams of food by the percentage figure for that element in 100 grams and divide by 100.

The fundamentals of dietetics is based upon the fact that for each gram of protein or carbohydrate we have 4 food calories and for each gram of fat 9 food calories. The following formulas will give the total glucose and fatty-acid of any diet. The total glucose equals all of the carbohydrate plus 58 per cent of the protein plus ten per cent of the fat, and the total fatty-acid equals 46 per cent of the protein and 90 per cent of the fats.

The calculation of the different fatty-acid glucose ratios of diets has been of considerable interest to me. Unfortunately there has not been a method to accurately calculate such ratio for any definitely specified number of calories. I have worked out formulas to cover all the glucose, fatty-acid ratios in which there is required a high carbohydrate and low fat, high fat and low carbohydrate, high protein and low protein. The formulas require two known factors: the number of calories and the total protein in grams for the day's diet. These formulas lose no calories in the calculations and the total glucose, fatty-acid ration of the diet is correct to the fraction of a gram. Heretofore, dietitians have been allowed, when calculating diets, an error of as much as from 1 gram to 3 grams difference between the total glucose and total fatty-acid of the diet.

The formulas require that the proteins in grams to be used during the day's rations must be known and also the total calories in the diet.

6 Grams Glucose to one Gram Fatty-acid
F in grams 0.331T-0.421P
5 Grams Glucose to one Gram Fatty-acid
F in grams 0.0376T-0.409P
4 Grams Glucose to one Gram Fatty-acid
F in grams 0.0435T-0.393P
3 Grams Glucose to one Gram Fatty-acid
F in grams 0.0515T-0.371P
2 Grams Glucose to one Gram Fatty-acid
F in grams 0.0633T-0.339P
1 Gram Glucose to one Gram Fatty-acid
F in grams 0.082T-0.29P
1 Gram Glucose to 1.5 Grams Fatty-acid
F in grams 0.090T-0.264P
1 Gram Glucose to 2 Grams Fatty-acid
F in grams 0.0961T-0.25P
1 Gram Glucose to 2.5 Grams Fatty-acid
F in grams 0.0996T-0.24P
1 Gram Glucose to 3 Grams Fatty-acid
F in grams 0.102T-0.234P
1 Gram Glucose to 3.5 Grams Fatty-acid
F in grams 0.10385T-0.229P
1 Gram Glucose to 4 Grams Fatty-acid
F in grams 0.10526T-0.225P
1 Gram Glucose to 4.5 Grams Fatty-acid
F in grams 0.10638T-0.222P
1 Gram Glucose to 5 Grams Fatty-acid
F in grams 0.1073T-0.22P

KEY:
T—Calories
P—Protein
F—Fats
C—Carbohydrates

EXAMPLE

A diet of 60 grams of protein and 2000 calories which must have a Glucose. Fatty-acid ratio of 1 gram Glucose to 1.5 grams Fatty-acid—0.0909 times T 2000—0.264 times P 60 equals F 165.9 grams. Total calories of fat and protein 1733.6. Carbohydrates—2000 - 1733.6 equals carbohydrates 66.5 grams. Calories 2000. Diet: Carbohydrates 66.5 grams, proteins 60 grams, fats 165.9 grams.

DISCUSSION

Uly H. Smith, Louisville: This is a highly scientific paper which probably cannot be fully appreciated unless one reads it. Dr. Smith leaves very few things to say about his paper except to stress a few of the important features.

The chart he has to your left appears to be a rather intricate thing when you first view it, but after analysis we find it is a very simple thing, and it is absolutely correct and accurate, so much so that the 1933 edition of Pattee's Practical Dietetics has embraced these formulae. This is a book accepted by a good many of the teaching hospitals and schools..

The modern diet and management for the diabetic has transported him from an almost inoperable class to a fairly safe surgical risk.

J. G. South, Louisville: I hardly feel competent to discuss this excellent paper of the essayist. I must confess a good deal of it goes over my head. I would rather talk to you as a patient of Dr. Smith's and offer myself as an exhibit. Dr. Smith has had me in hand for the past year. He has not only brought me down from an obese diabetic to my present girlish figure (now laugh, darn you), but he has done it on a very liberal diet, it seems to me. I have never suffered for food at any time in spite of the fact that I have been reduced by seventy pounds in the past year. I am very much struck with Dr. Smith's idea of the protein diet being based on the ideal weight of the patient rather than on his actual weight. I feel that I have been given, as I say, a most liberal diet and have been able to reduce quite a bit in this time.

I have gained strength steadily. When he began treating me I could hardly walk across this room; I don't believe I could. Now I am getting quite strong.

I hope you gentlemen will go over his paper very carefully and study it in the Journal. I am sure you will find a great deal of meat therein, which you may add to that diet.

George A. Hendon, Louisville: I promised Dr. Smith I would discuss some phases of his subject relative to the question of calcium and its usefulness in the mineral economy. Of course I know nothing about what Dr. Smith has presented to you here in developed form, but my interest has been chiefly unlisted in observing the almost constant diminution of calcium in cases of peritonitis. We have made a check on all of our cases in that field and in every instance we have found the calcium content of the blood to be very low, usually from 4 to 7, as you know 9 to 11 is within the normal limits. We have found also in those cases that when we are able to increase the calcium content of the blood the patients immediately begin to show improvement.

We have been able to accomplish results by the intravenous administration of calcium and the daily administration of about 20 units of the Collips serum, the parathormone. I am particularly moved to make this presentation because the other mineral elements of the blood have received such an enormous amount of attention, particularly the chlorides, and the calcium content has been almost entirely overlooked.

I think that the method of administration has quite a lot to do with the results. I am quite sure that the time is at hand when in all serious acute illnesses we must supply nutrition and medication intravenously and that we must abandon the dose method of accomplishing this aim; I think that all intravenous medication and all intravenous nutrition should be administered with a religious regard for the ratio between delivery and distribution, and if that ratio is broken your efforts will be unphysiological if not pathological.

L. Lyne Smith, (In closing): I am glad Dr. South feels that he is getting along nicely. The question of weight reduction of the obese diabetic is very definitely demonstrated in his case.

In reply to Dr. Hendon's remarks in reference to calcium, an adequate amount should be given every diabetic, but more especially the child diabetic demands a supply sufficient to insure healthy teeth and a normal bone growth. The condition of the teeth is often the physician's best guide in detecting a calcium deficiency, and it should always be remembered that Vitamin A is of great assistance in the calcium metabolism.

I would like to say a word in closing in reference to my diet formulas. These formulas are so arranged that any type of diet can be obtained at any Glucose-Fatty-acid ration desired. All diets are practically covered, except salt-poor and purin free diets.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS*

E. S. Allen, M. D.

Louisville

When surgical measures are advocated for the relief of a pathological condition, the questions must be asked: Is it the operation safe enough to justify the risks? Are the end results satisfactory?

Prior to the introduction of the Fredet-Rammstedt operation in 1912, the mortality from attempt at surgical relief of pyloric stenosis, was prohibitive—65 to 85 per cent. Numerous surgical procedures were attempted; the most successful was posterior gastro-enterostomy, with a mortality of from 35 to 50 per cent. The weak, emaciated, dehydrated patients died from shock and exhaustion occasioned by long anesthesia and operative trauma.

The Rammstedt technique requires from ten to twenty minutes and can be done under local anesthesia. In answer to question 1: Is surgery safe enough to justify the risk? I quote Lauman and Mahoney who recorded 425 cases operated on at the Surgical and Medical Services of the Childrens Hospital and Infants Hospital, Boston, with a mortality rate of 6.3 per cent as follows: 10.4 per cent in the first 125 cases, 7 per cent. in the next 150 cases, and 2 per cent in the last 150 cases. He attributes the reduction in the mortality rate not to improved technique, but to more careful pre-operative preparation, and may I state that this applies to all major surgery. Strauss reported 221 cases with a mortality of 3 per cent. Downs and Bowling report 454 cases with a mortality ranging from 17 per cent to 2 per cent, stating that when the loss of weight is less than 20 per cent of the maximum weight attained and the symptons are present for less than four weeks, the mortality is less than 3 per cent.

In answer to question 2: Are the end results satisfactory? Lauman and Mahoney state that, with recovery from shock and surgical complication, the patient becomes a normal individual. A normal pylorus is es-

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tablished, the patient makes a normal gain in weight and has complete relief of all symptoms. Occasions have arisen necessitating opening the abdomen one week after operation and a normal pylorus was observed. I quote from a paper by Dr. J. T. Thornton of Wheeling, West Virginia. Dr. B. S. Drake of Clarksburg, in discussing Dr. Thornton's paper, states that he had an opportunity to view the pylorus four days after a Rammstedt operation and he was surprised to find that the mucous membrane was entirely covered over by endothelium. He states that it was completely well and that, if one had not known the operation had been performed, he would have almost overlooked it. Dr. James Mitchell of Washington, D. C., reports a case who submitted to surgery for gastric hemorrhage, upon whom a gastro-enterostomy for pyloric stenosis had been performed eighteen years previously, and he found the pylorus still hypertrophied. Dr. Richard Bolling quotes Dr. Martha Wallstein, pathologist at the Babies Hosptial of New York, in a study of twenty-three specimens of the pylorus removed from 24 hours to two years after operation, which showed that the Rammstedt operation cures the condition in contrast to gastro-enterostomy, which leaves the pylorus unchanged.

In twenty-five days after operation, the stomach is normal in size and the pylorus but slightly firmer than usual. In six weeks, only a delicate scar remains. Both Dr. Holt and Dr. Downs have analyzed their follow-up results, with the conclusion that there is no interference whatever with normal developments. Dr. Bolling states that in ten years his follow-up cases show, in no instance, any evidence of pyloric obstruction or any symptoms referable to the operation.

Etiology

Various theories have been offered in an effort to determine the etiology of pyloric stenosis; there is no satisfactory theory. It has been suggested that it is caused by injury to the central nervous system at birth; and again it is a condition similar to megocolon or Hirschsprung's disease. Race does not seem to play any part at all, though in the negro it is very rare. Vitamin deficiency should be ruled out, as one of twins will have it and the other will be free, as occured in one of my cases. It is apparently more frequent in the first born; about 50 per cent of the cases occur in the first-born. Male children suffer from this infection more than female, the proportion being eight to one.

Cantley believes that there is a primary congenital hypertrophy associated with a secondary functional activity, the combination resulting in pyloric obstruction. Thompson maintains that a functional hyper activity is the primary factor resulting in hypertrophy. Holt thinks that hypertrophy precedes spasm. Downs and Bolling are of the opinion that there is primary developmental hyperplasia of the circular muscle fibres, and that hypertrophy precedes spasm and the symptoms follow spasm. The latter theory seems more plausible, since pyloric hypertrophy has been noted in seven-month fetus. Dr. Leonard Freeman of Denver has advanced the theory that it is an evolutionary flare-back, or atavistic tendency. He thinks the pyloric hypertrophy is an attempt of nature to imitate the gizzard.

Several instances have been reported of the family incidence. Canfield records a family in which the father and daughter both had pyloric stenosis in infancy. He quotes Heubner, Funkelstein, Abraham, Grissen, Richter and others who have reported parent and child with congenital pyloric stenosis. Armstrong reports three successive children as having it. The principal etiological factor in congenital pyloric stenosis is still undetermined.

Pathology

In congenital pyloric stenosis, the pylorus forms a tumor which varies in size from that of the distal phalanx of the little finger to that of the distal phalanx of the thumb. The hyperplasia consists of the circular fibres of the pylorus; the longitudinal fibres and the mucosa remain normal. The muscular hypertrophy extends proximally from the level of the pyloric veins along the stomach wall, stopping abruptly at the first portion of the duodenum. It is about an inch to an inch and a quarter in length, and resembles an olive in shape. It is whitish in color and almost the consistency of cartilage. The outer muscular fibres take no part in the repair of the incision, which is done by visceral and mucous coats. In a few weeks following operation, marked atrophy takes place and the pylorus has the appearance of a perfectly normal struture, showing no evidence of its former hypertrophic state.

Diagnosis

Given a male infant who, at the end of two weeks following birth, begins to have the following signs and symptoms: projectile vomiting—the emesis never bile stained, a visible peristaltic wave beginning in the left hypochondrium and proceeding to the right, loss of weight or failure to gain weight, constipation, a palpable pyloric tumor and a posi-

tive X-ray of the stomach, the diagnosis should be evident.

Tisdall. Poole, and Brown reporting 120 cases state that 96 had visible peristalsis, 113 projectile vomiting, 111 palpable tumors, and 106 constipation. Richard Bolling reports 454 cases, in which the tumor was palpable in every instance.

The symptons of pyloric stenosis are in 95 per cent of the cases pathognomic. Every writer on the subject states that almost without exception the five cardinal symptons were present: 1. Failure to gain in absence of fever. 2. Projectile vomiting shortly after eating. 3. Visible gastric peristalsis from the left to the right. 4. Scanty stools and urine. 5. Palpable pyloric tumor.

In the twenty-six cases that I have seen and operated on, the symptons were classical and diagnosis was made by the pediatrician. I am sure that the diagnosis is made with less difficulty when the physician is on the look-out for pyloric obstruction. I have succeeded in being able to palpate the pyloric tumor in all twenty-six cases. The olive shaped mass is recognized with less difficulty if the stomach is empty and the baby quiet, or asleep. Twenty-four of the twenty-six cases were so emaciated that the tumor was detected with ease.

I do not think the doctor is always responsible for the delay in diagnosis. Mothers and their friends all have a remedy to be tried before the doctor is consulted. Entirely too many of the babies are almost moribund before they are brought to the surgeon for the only relief that can be offered—a complete relief and a permanent cure.

It is admitted by some that if the baby can be kept alive for two months, in a hospital with a trained nurse in constant attendance, and so on, that the hypertrophy will disappear. Follow-up analyses have not substantiated this claim. Even in adult life there are patients operated on for digestive disturbances who have given a history of a stormy infancy, very suggestive of pyloric stenosis, and the pylorus found to be still thickened and obstructive. On the contrary, pylori operated on in infancy, observed in later life, show no evidence of pathology. When the diagnosis is made, when a pyloric tumor can be palpated, for this is pathognomic evidence, it does not seem fair to the baby to withold prompt and permanent relief.

In searching literature on the subject, I have been unable to find a cure recorded in a case where the pylorus was palpated that had been effected by atropine and diet. The cures reported, I am led to believe, are of pylorospasm, not of pyloric stenosis.

TREATMENTS PRE-OPERATIVE, OPERATIVE AND POST-OPERATIVE

I am sure that there is no surgical case in which team work is more essential than in pyloric stenosis. The surgeon should have complete and thorough co-operation of a pediatrician. Someone had said that you can treat an adult like a baby, but not a baby like an adult. A baby specialist should have entire charge of a case of pyloric stenosis except for the surgical aspect.

It is generally agreed, by surgeons and pediatricians, that pyloric stenosis is not an emergency operation. Infants with pyloric stenosis are usually dehydrated, weak, and emaciated with a starvation acidosis frequently and a secondary anemia. Two or three days preparation will change a very poor surgical risk into one of safety. Pre-operative treatment consisting of hypodermoclysis of 3 per cent glucose in normal saline, venoclysis of glucose, blood tranfusions of 10 c. c. of blood per pound of body weight, converts what might have been a fatal surgical procedure into a safe one.

Surgical Procedure: Every facility conducive to warmth and comfort is essential while the patient is on the operating table. A blanket spread over hot water bottles and a warm blanket over the chest and limbs help to conserve body heat. The anesthetic should be local—one half of one per cent novocain, or ether. Eighteen of my cases were done under local anesthesia, eight under ether. The only objection to the use of local that I have found is that the surgeon is constantly on guard, in case the baby cries or strains, to prevent an extrusion of the intestines. I also find it a little more difficult to close the peritoneum, as this almost veil-like structure tears under the slightest tension. I am sure that if dehydration and starvation are counteracted with saline and glucose pre-operatively, the cases become safe ether risks. Under general anesthesia, the surgeon can work much faster and will be probably less apt to traumatize the viscera..

Before the operation, the stomach should be emptied by means of a catheter. The incision is about one and a half inches in length, through the right rectus muscle, from one-fourth to one-half inch to the right of the median line, overlying the right lobe of the liver. The liver just under the incision prevents to some extent, the development of a hernia or of a possible eventration should non-union of the wound result. The index

finger in introduced and the tumor located. The pylorus is either pulled into the wound with the index finger and thumb of the left hand or gently grasped with a small Allis forcep, and delivered. The mass is held between the thumb and finger of the left hand, rotated a bit downward, and the less vascular portion incised, being careful at the duodenal end not to incise the mucosa. The cut fibres are then widely separated until the mucosa presents itself well into the wound of the pylorus. As a rule, little or no bleeding occurs. Bleeding points should be under run with small silk sutures as it is difficult to apply a clamp to this gristle type of structure. Some have advocated placing a strip of muscle in the incision to control oozing. No further plastic procedure is necessary. The plyorus is dropped back and the wound closed, care being taken to obtain perfect approximation. All bleeding points in the abdominal wound should be ligated. Stay sutures should always be used.

The usual complications are: Nicking the duodenal mucosa, with peritonitis following; hemorrhage, either from the pyloric or abdominal incision; and infection. Eventration generally results from hemorrhage or infection. I have experienced two of the complications; eventration once, cutting and tearing of the duodenal mucosa twice. I lost one of the cases in which the mucosa was cut although I sutured the opening, which was almost imperceptible, at once.

The other complications, an eventration, occurred on the tenth day post-operative. The child had been making a normal convalescence at the Childrens Hospital. I was called while I was in the operating room at the Baptist Hospital and informed of the eventration. I ordered warm saline compresses until I could get there. The child was anesthetized before disturbing the dressing. About one half of the small intestine was out of the abdomen. The abdomen was screened with warm saline sponges and the intestines replaced in the abdomen. A fenestrated rubber catheter was inserted into the abdominal cavity as a drain and the wound closed with catgut and four dermal stay satures. Hypodermoclysis was instituted and the baby made an uneventful recovery.

I have had one death in the twenty-six cases. The first case on which I operated fourteen years ago is a normal boy in high school. He has never complained of any digestive disturbances. He almost died on the operating room table. His weight was four pounds made up principally of skin and bones. The operation was interrupted three times to resuscitate the patient.

There was nothing unusual about the other twenty-three cases, except that two in the same family were operated on for pyloric stenosis. Dr. Barbour referred a baby to me, diagnosed by him as pyloric stenosis. The mother was from out of town and this baby was nearer dead than alive. The pyloric tumor was easily palpated. While scrubbing, preparatory to the operation, the nurse reported the baby dying. He was gasping, too weak to make a sound in attempting to cry. 25 c. c. of mother's blood was injected into the external jugular vein and 100 c. c. of saline given by hypodermoclysis. The operation was delayed an hour and was then performed under local anesthesia. Under Dr. Barbour's post-operative care, the baby made an uneventful recovery. Eighteen months later, the mother gave birth to twins. When the babies were three weeks old, she recognized that one of the twins had the same projectile vomiting as her first baby had had. Without consulting her physician, she came to the hospital and called Dr. Barbour, who concurred in her diagnosis. I had the pleasure of operating on the child. The twins are now the same size.

Post-operative Treatment: The Post operative treatment consists in warmth and fluids for the first twenty-four hours: Saline by hypodermoclysis and glucose intravenously. We find that intravenous administration can best be carried out by exposing the dorsalis pedis just above the internal malleolus. Hypodermoclysis generally meets the demand for fluids until sufficient fluids can be taken by mouth, at which time the baby should be turned over to the pediatrician to assume the responsibility of the diet and medication.

CONCLUSIONS

Pyloric stenosis is always a surgical condition and should be turned over to the surgeon as soon as the diagnosis is made.

2. Surgery relieves the symptoms and permanently cures the condition.

3. The operation is simple and can be made 98 per cent safe if proper preoperative preparation is carried out.

4. Pyloric stenosis is not an emergency operation and time should be taken to counteract starvation acidosis and dehydration.

5. The surgeon and pediatrician should cooperate in the treatment of pyloric stenosis.

6. Pyloric stenosis should be diagnosed in 95 per cent of the cases.

DISCUSSION

Philip F. Barbour, Louisville: About half the cases that come to you complaining of vomiting in the second or third week of life are really cases of pyloric stenosis; the other half of them are due to pylorospasm and can be relieved by appropriate treatment.

I do not agree with Dr. Allen that you can always palpate this pyloric stenosis mass. I must confess that a number of times that I have thought that I felt it but I was really not quite so sure that I palpated the mass. Maybe some surgeons have more delicate fingers than we pediatricians have.

When a case comes to you the second or third week of life because of vomiting, the question is whether it is due to a real stricture, the development of this mass of stuff that looks like chicken gristle, swollen and enlarged, or whether it is due to some congenital defect of the child in response to its food. Many times by changing food, by elimination of the fat, by giving the child very thick cereal feedings, by the administration of atrophine in large doses, and by that I mean up to 10 or 15 drops of 1:1000 solution, or by the utilization of luminal, you can relieve the vomiting in these children and they get by without an operation.

The pyloric stenosis such as Dr. Allen has described to us of course is not amenable to medicine; you have to call upon the surgeon for help. It isn't always complete at the second or third week. By proper medication and proper feeding you may tide the baby along for a week or two weeks or three weeks; it may have opening enough to allow enough food to get by to maintain its weight. I make it a rule that when the child presents these symptoms, vomiting, and peristaltic waves, to try out medication first, but if the child begins to lose weight and if it loses weight in spite of proper feeding and in spite of the effects of medication, atrophine and luminal, then it is a question of operation, and as quickly and as promptly as you can get to it.

Two other things that the doctor has mentioned help us in this diagnosis. One of them is constipation. It is more than constipation. The stool is a dark green color—we call it a starvation stool. The other is a marked diminution or decrease in the amount of urine. If a child taking anything like a normal amount of food begins to have these dark green mucous stools and passes no urine at all, you can be sure that very little of that food or nutrition is getting beyond the pylorus.

Dr. Charles Eliot, President of Harvard University, was asked how he was able to do such an enormous amount of work, and he said that most people make it a rule to rest when they were tired, but that whenever he had a job ahead of him he took his rest beforehand. That is the best idea you can put across in the treatment of these cases. Get your child in something like a rested condition before you operate instead of operating and then trying to feed it up afterwards.

As Dr. Allen has said, this is not an emergency operation. You have a day or two or three days in which you can get in fluid by hypodermoclysis, you can get the blood into the child if necessary, and then bring the child to the operating table in the best possible condition.

Those that I have had operated upon as a rule have done beautifully and they have had complete and perfect results and subsequently in life they have shown no trouble with the stomach at all.

It is very important, I think, for the surgeon to get all of the fibers that surround that pylorus completely cut, otherwise the child still will have some constriction and will continue to vomit, and if he vomits after the operation, a tremendous strain is put upon the tissues and you are apt to find a rupture. I have seen rupture occur in two or three of the cases. That adds, of course, a tremendous risk to the child.

Frank P. Strickler, Louisville: Dr. Allen has given a very complete paper on this subject. There are, however, several phases of the subject I would like to touch on. First, a brief outline of the history of this disease might not be amiss. The first case of hypertrophic pyloric stenosis was described as "Scirrhus of the Pylorus in an Infant" by Dr. Hezekiah Beardsly in 1788 in the Transactions of the New Haven Medical Association. The clinical symptoms and postmortem findings were given in this report, but no definite suggestions for the cure of the disease. Williamson of London and Edinburg called attention to the condition in 1841. Dawosky also wrote on the subject in 1842. Hirschsprung reported two cases in 1888.

Previous to 1912, many and various operations had been performed for this condition, pylorectomy, gastro-enterostomy, pyloroplasty and dilitation of the pyloric canal. In 1908, Fredet, a French surgeon, advocated a modified Heineke-Mikulicz pyloroplasty. In 1912 Rammstedt suggested the operation described by Dr. Allen, which has superceded all other operations.

Following the universal adoption of the Rammstedt operation, the mortality of the disease has been consistently lowered and the surgical treatment of the disease was placed on a firm basis.

In this country, we are indebted to Dr. William A. Downs and his associate, the late Dr. W. R. Bolling, for their work on pyloric stenosis. As an intern in the service of Dr. Downs, I had

the privilege of seeing a number of these cases. Dr. Downs reported the results on some five or six hundred of these cases before retiring from active practice.

Dr. Downs divided his patients into two groups, - those cases done prior to the fourth week, and those cases done after the fourth week. The mortality in cases done before the fourth week was about six per cent; and, taking all cases done after the fourth week, the mortality was about fifteen per cent.

I think the method by which this operation is done should be described. This is not a cutting operation, as the knife is only used to incise the superficial muscular coats; then the handle of the knife is used as a blunt dissector to tear down the sub-mucosa. In doing this operation, it is also wise to remember that the pyloric end of the stomach is thicker than the duodenum and to govern your incision accordingly. It is wise also to make your incision slightly above the mid-line of the duodenum, for, if you stay in this region, you will have less hemorrhage. I also think it is wise, as a matter of safety, to suture a small patch of omentum over the incision, for, should a perforation occur, the omentum will plug up the opening.

Preceding the operation, the stomach should be completely emptied. Then there will be less possibility of a post-operative diarrhea and high temperature—two very undesirable symptoms.

I have personally done about thirty of these operations with very gratifying results. In my opinion, this is strictly a surgical disease and the earlier the diagnosis is made and the case comes to surgery, the better the results.

Irvin Abell, Louisville: Dr. Allen has given us a most excellent paper. I arise merely to emphasize some of the points which he has made. My experience with pyloric stenosis goes back before the Rammstedt operation. We had operated upon three patients previous to the introduction of that operation, one by the Mikulicz type of pyloroplasty, which we lost because of the hypertrophy interfering with accurate closure by suture, the patient dying with peritonitis, and two upon whom we did posterior gastroenterostomies and which are still living and well.

The points that I would like to emphasize are these. One was just mentioned by Dr. Strickler, that after making the superficial incision in the hypertrophied muscular tissue, one should use a blunt pair of scissors or small miniature hemostats in order to make separation of the muscular coat. In that way one may avoid injury of the mucosa. We have had all of the complications mentioned by Dr. Allen. In two of our earlier cases in using the knife for the division of the muscular tissue we divided the mucosa. Fortunately in both instances through accurate suture and the employment of an omental fat graft leakage was prevented and both babies recovered.

We have had the evisceration mentioned by Dr. Allen. I want to emphasize in particular the incision suggested to obviate this danger, and it is one made along the chondral margin, because in the infant the liver does invariably come down, well below the chondral margin. If the incision is made close to the chondral margin, even extending above it, it means that when it is closed the liver comes down behind it and even though one does have interference with union evisceration will not occur.

E. S. Allen, (In Closing): As shown on this chart, at the duodenal juncture a V shaped incision is made into the muscle, just above the Pylorotomy and the muscle it brought down and sutured to the lower angle of the pylorotomy incision. If duodenum is injured in middle of original incision, a parallel incision is made in the middle of the pylorus and the muscle pulled down and sutured to lower lip of original incision which entirely occluded that space and prevents leakage.

PROGRAM OF THE POST GRADUATE COURSE IN PEDIATRICS

The Program of Lectures of Post Graduate Course in Pediatrics which will be held at the Children's Free Hospital under the auspices of the American Academy of Pediatrics.

April 24, 1935.

9-10	Address of Welcome,	Dr. Barbour
10-11	History Taking Physical Ex., Laboratory Procedure,	Dr. Bruce
11-12	Diseases of the New Born,	Dr. Pritchett
12:30		
1:30	Premature,	Dr. Smith

May 1, 1935.

9-10	Whooping Cough,	Dr. Nicholson
10-11	Scarlet Fever,	Dr. Bruce
11-12	Diphtheria,	Dr. Pritchett
12:30		
1:30	Measles, Mumps, Chicken Pox,	Dr. Palmer

May 8, 1935.

9-10	Empyema,	Dr. Smith
10-1	Childhood Tuberculosis,	Dr. Andrews
11-12	Upper Respiratory Infections,	Dr. Glaboff
12:30		
1:30	Pneumonia	Dr. Barbour

May 15, 1935.

9-10	Allergy,	Dr. Palmer
10-11	Mental Hygiene	Dr. Bruce
11-12	Influence of Good Prenatal Care on the Health of the Child	Dr. Veech
12:30		
1:30	Problems of Adolescence,	Dr. Barbour

May 22, 1935.

9-10	Diabetes,	Dr. Glaboff
10-11	Rheumatism	Dr. Pritchett
11-12	Congenital Syphilis,	Dr. Andrews
12:30		
1:30	Scurvy,	Dr. Smith

May 29, 1935.

9-10	Diabetes,	Dr. Glaboff
10-11	Anemia,	Dr. Andrews
11-12	Nephritis,	Dr. Bruce
12:30		
1:30	Leukemia,	Dr. Smith

June 5, 1935.

9-10	Encephalitis,	Dr. Nicholson
10-11	Meningitis,	Dr. Pritchett
11-12	Poliomylitis,	Dr. Palmer
12:30		
1:30	Convulsions,	Dr. Barbour

June 12, 1935.

9-10	Feeding,	Dr. Smith
10-11	Burns,	Dr. Andrews
11-12	Rickets,	Dr. Glaboff
12:30		
1:30	Diseases of the Ductless Glands,	Dr. Barbour

June 19, 1935

9-10	Parenteral Fluids	Dr. Nicholson
10-11	Dehydration and Acidosis	Dr. Bruce
11-12	Immunization	Dr. Palmer
12:30		
1:30	Feeding	Dr. Smith

June 26, 1935.

9-10	Pyloric Stenosis and Spasm,	Dr. Smith
10-11	Acute Intestinal Toxemia	Dr. Bruce
11-12	Hirshsprung and Celiac Disease	Dr. Pritchett
12:30		
1:30	Abdominal Pain,	Dr. Barbour

The teaching staff is composed of Drs. Philip Barbour, T. Cook Smith, J. H. Pritchett, Annie Veech, J. W. Bruce, W. W. Nicholson, J. J. Glaboff and H. S. Andrews

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Oh Doctor come and do be quick,
Our darling babe is very sick;
Who rushes o'er from midst of meal,
Or from his good warm bed doth steal?
Oh Doctor.

Who vies with stork in hasty flight
On stormy, cold and darkest night?
Who spanks new babe, gives breath of life
And nurtures it, in pain or strife?
Its Doctor.

Doctor, doctor, it's grandma s hip,
She got a fall, an awful slip.
Who drives out over roughest lane,
Though he be worn,—himself in pain?
Your Doctor.

Telephone rings, come to us doc',
Our Johnny's hurt, such deadly shock,
Fever too, and "bad sick boy,"
Who answers call with smile of joy?
Our Doctor.

The doctor works for poor man free
And he displays apparent glee.
Prescribe or cut or make long call,
His time is yours, yours is his all,
Whose Doctor?

Who gets H....., for monthly bills,
When sick one is no longer ill;
Whose big mail doth sadness fill;
Whose pay must wait from now until—?
His Doctor.

The doctor and the God above
Receive some praise and of some, love;
They both are called when in dire need,
Both forget as the pains recede;
Their Doctor.

Doctor "my man will die I fear,
Please do come—you are a dear.
He may be paid for being nice,
Not on this side,—in Paradise.
The Doctor.

MISCH CASPER, M. D.

Kentucky Medical Journal

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COUNTY SOCIETY REPORTS

Henderson: Henderson County Medical Society met with the Doctors and Druggists of Union, Daviess, Webster and Henderson counties, at a dinner and exhibit at the Soaper Hotel, March 11, 1935.

Dr. R. E. Smith introduced the speaker, Dr. Virgil Simpson of Louisville, who spoke on the uses of the United States Pharmacopeia and the methods of selecting drugs for this book. Mr. A. P. Markendorf spoke on the filling of prescriptions from the druggists point of view, and Mr. T. W. Hoskins spoke on control and suggested improvements in the prescription departments of drug stores.

Those present were: Henderson Doctors—W. V. Neil, J. L. Tanner, J. F. Clark, D. W. White, R. E. Smith, E. J. Rogenberg, J. O. Strother, and W. L. O'Nan. Morganfield—Drs. H. B. Stewart, H. B. Allen, C. B. Graves and J. W. Conway. Uniontown: C. P. Cottingham. Corydon: E. N. Powell. Owensboro: D. M. Griffith. Benton: V. A. Stilley.

Henderson Druggists were J. Grasty, K. B. Royster, E. E. Dunaway, C. W. Mulmanstedt, S. W. Tanner and E. T. Biggs. Morganfield—Leo Wathen and A. W. Mason. Louisville—A. P. Markendorf, W. H. Fisher, H. J. Hafendorfer and T. W. Hoskins. Corydon—A E. Lacy. Evansville—Bob Kiefner. Wheatcroft—A. E. Tucker. Sturgis. M. B. Cason.

Dr. Simpson spoke again on the plans in Congress and elsewhere on Compulsory Health Insurance and the recent meeting of the House of Delegates.

Following which the meeting adjourned.

WALTER L. O'NAN, Secretary.

Jefferson: At the April 1st meeting of the Jefferson County Medical Society the following program was carried out:

D. P. Hall, An Unusual Foreign Body in the Abdomen.

H. R. Leavell, Diphtheria Immunization.

G. M. Lawson, Trends of Disease in Louisville. Discussion opened by T. Cook Smith.

On the April 15th program an address will be given by Charles Mazer, Philadelphia, entitled "The Use and Abuse of Glandular Products in the Treatment of Gynecological Conditions." This address is given under the auspices of the Louisville Obstetrical and Gynecological Society.

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Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245★

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Editorial and Business Offices, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents.
Entered as second-class matter, Oct. 22, 1916, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rates postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920

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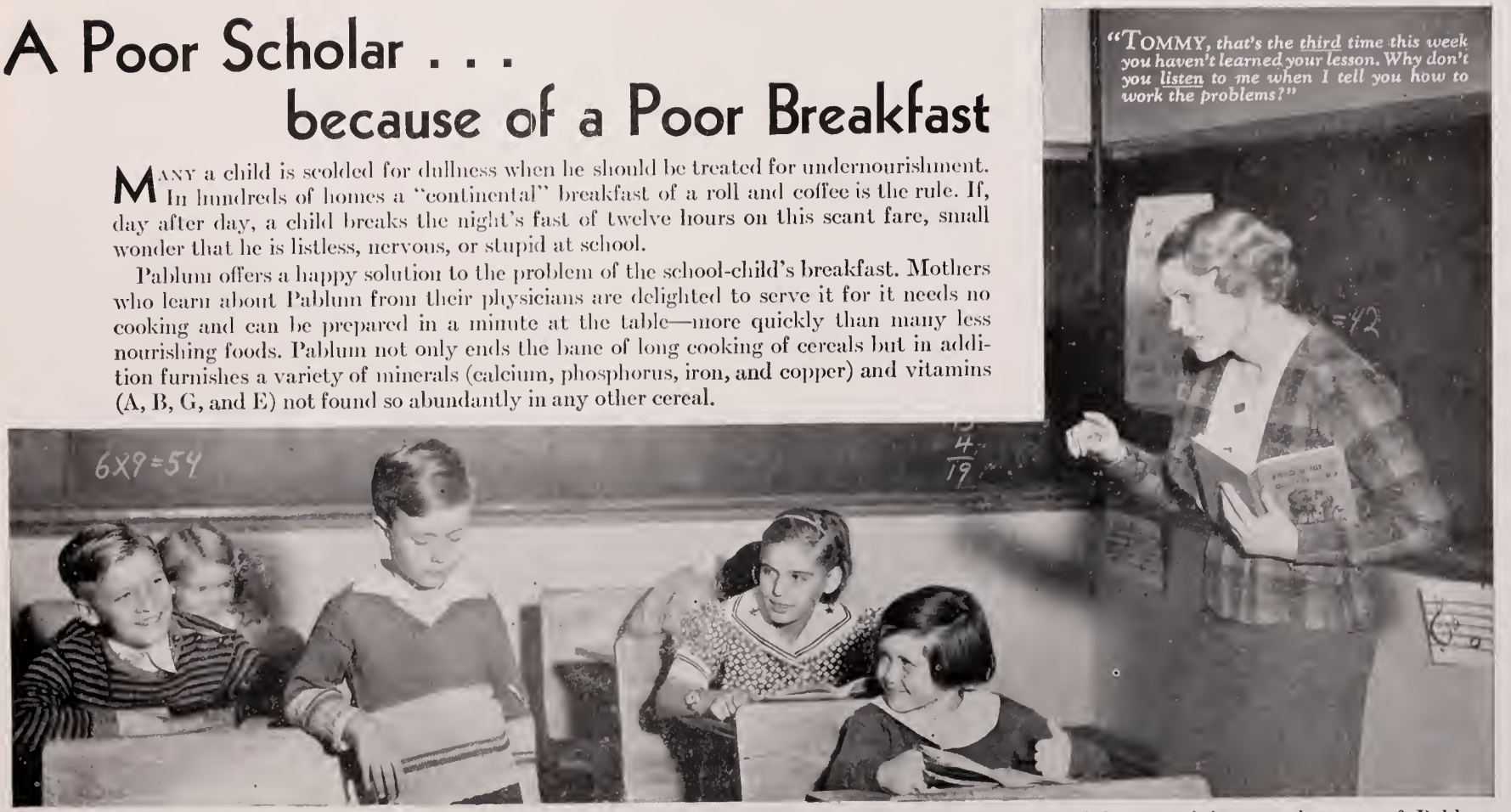
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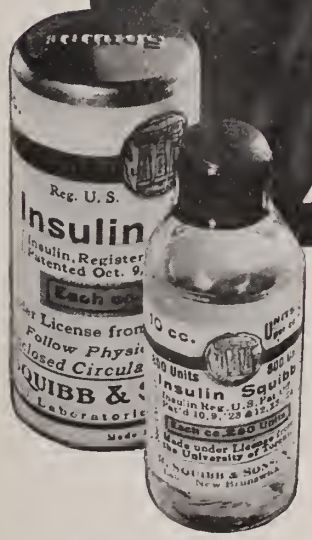
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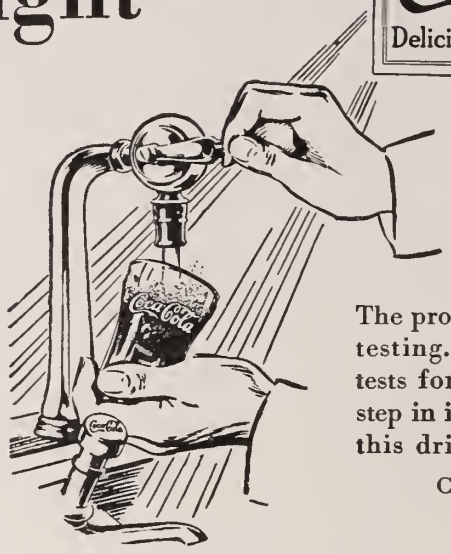
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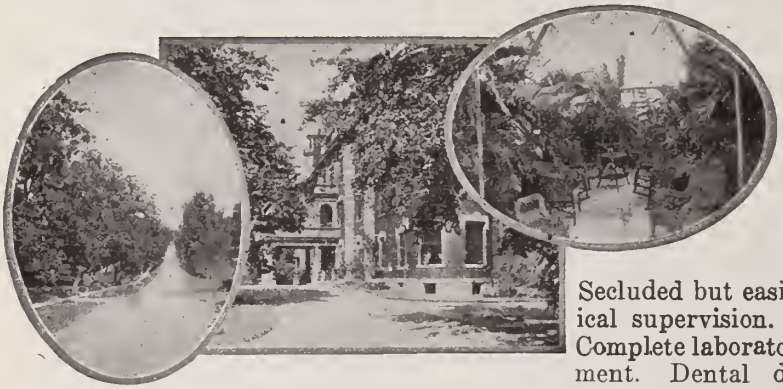
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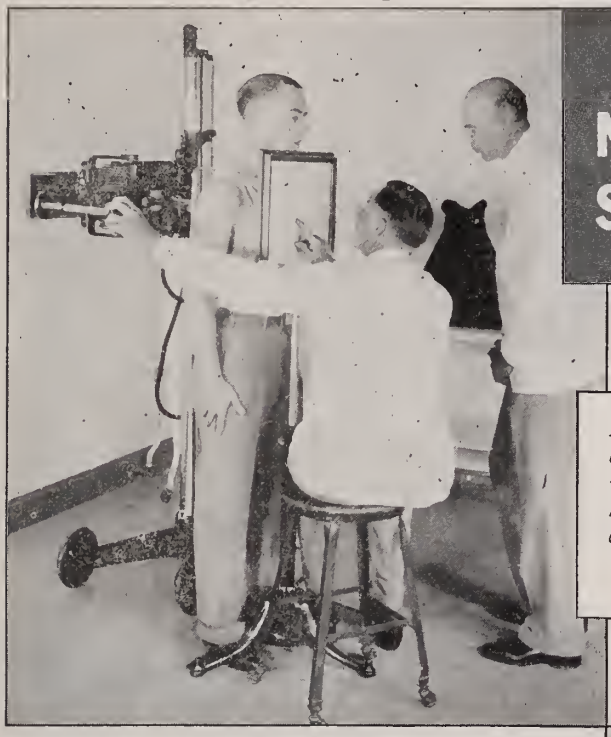
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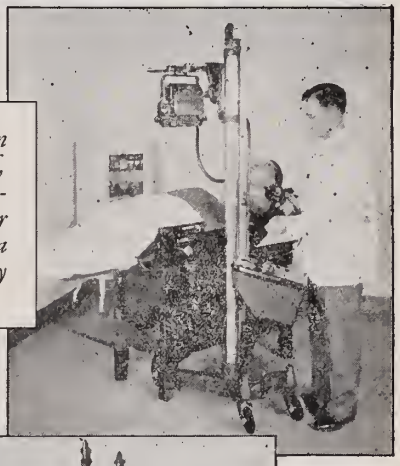


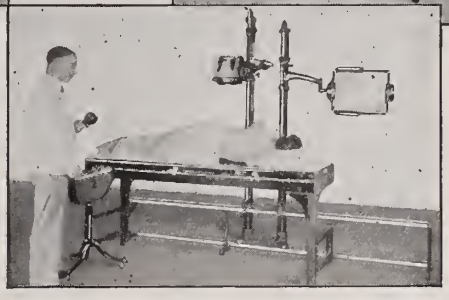
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Ballard	F. H. Russell	Wickliffe	May —
Barren	Paul S. York	Glasgow	May 15
Bath	H. S. Gilmore	Owingsville	May 13
Bell	R. F. Porter	Middlesboro	May 10
Boone	R. E. Ryle	Walton	Mty 16
Bourbon	W. B. Hopkins	Paris	May 16
Boyd	R. G. Culley	Ashland	May 7
Boyle	P. C. Sanders	Danville	May 14
Bracken	J. M. Stevenson	Brooksville	May 6
Breathitt	Frank K. Sewell	Jackson	May 21
Breckinridge	J. E. Kincheloe	Hardinsburg	May —
Bullitt	S. H. Ridgeway	Shepherdsville	May —
Butler	G. E. Embry	Morgantown	May 1
Caldwell	W. L. Cash	Princeton	May 7
Calloway	A. F. Russell	Murray	May 2
Campbell-Kenton	Luther Bach	Bellevue	May 2-16
Carlisle	J. F. Dunn	Arlington	May 7
Carroll	J. M. Ryan	Carrollton	May —
Carter	W. S. Hawn	Grayson	May 14
Casey	Wm. J. Sweeney	Liberty	May 23
Christian	M. A. Gilmore	Hopkinsville	May 21
Clark	R. H. Scobee	Winchester	May 17
Clay	J. L. Anderson	Manchester	May —
Clinton	S. F. Stephenson	Albany	May 18
Crittendon	C. G. Moreland	Marion	May 13
Cumberland	W. F. Owsley	Burkesville	May 1
Daviess	I. A. Thorpe	Owensboro	May 14-28
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Estill	Walter Cox	Irvine	May 8
Fayette	John Harvey	Lexington	May 14
Fleming	C. W. Christine	Flemingsburg	May 8
Floyd	J. G. Archer	Allen	May 29
Franklin	W. S. Snyder, Jr.	Frankfort	May 2
Fulton	J. C. Morrison	Hickman	May 8
Gallatin	J. M. Stallard	Sparta	May 16
Garrard	J. E. Edwards	Lancaster	May 16
Grant	C. A. Eckler	Dry Ridge	May 15
Graves	H. H. Hunt	Mayfield	May 7
Grayson	C. F. Blankenship	Leitchfield	May 30
Green	S. J. Simmons	Greensburg	May 6
Greenup	C. W. Monroe	Greenup	May 10
Hancock	F. M. Griffin	Hawesville	May 6
Hardin	D. E. McClure	Elizabethtown	May 9
Harlan	W. R. Parker	Harlan	May 18
Harrison	W. B. Moore	Cynthiana	May 6
Hart	S. F. Richardson	Munfordville	May 7
Henderson	Walter O'Nan	Henderson	May 13-27
Henry	Owen Carroll	New Castle	May 27
Hickman	Chas. Hunt	Clinton	May 2
Hopkins	David L. Salman	Madisonville	May 2
Jackson			May 4
Jefferson	Uly H. Smith	Louisville	May 6-20
Jessamine	J. A. VanArsdall	Nicholasville	May 23
Johnson	P. B. Hall	Paintsville	May 11
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Leslie	John H. Kooser	Hyden	May —
Letcher	R. Dow Collins	Whitesburg	May 28
Lewis	J. D. Liles	Vanceburg	May 20
Lincoln	Lewis J. Jones	Houstonville	May 17
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McCreary	R. M. Smith	Stearns	May 6
McLean	G. L. Thompson	Calhoun	May 9
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COUNTY	SECRETARY	RESIDENCE	DATE 1935
Marion	W. A. Resteen	Lebanon	May —
Marshall	S. L. Henson	Benton	May 15
Mason	Allen F. Murphy	Maysville	May 8
Meade	A. A. Baxter	Brandenburg	May 23
Menefee	E. T. Riley	Frenchburg	May —
Mercer	J. Tom Price	Harrodsburg	May 14
Metcalfe	P. W. Bushong	Edmonton	May —
Monroe	E. S. Dunham	Tompkinsville	May —
Montgomery	D. H. Bush	Mt. Sterling	May 14
Morgan	W. H. Wheeler	Betsy Sayne	May —
Muhlenberg	G. L. Simpson	Greenville	May 14
Nelson	R. H. Greenwell	Bardstown	May —
Nicholas	T. P. Scott	Carlisle	May 20
Ohio	Oscar Allen	McHenry	May 1
Oldham	S. J. Smock	LaGrange	May 7
Owen	K. S. McBee	Owenton	May 2
Owsley	D. E. Wilder	Booneville	May 6
Pendleton	W. A. McKenney	Falmouth	May 8
Perry	R. L. Collins	Hazard	May 13
Pike	M. D. Flanary	Pikeville	May 6
Powell	W. Johnson	Stanton	May 6
Pulaski	M. C. Spradlin	Somerset	May 20
Robertson			May —
Rockcastle	Lee Chestnut	Mount Vernon	May 28
Rowan	A. W. Adkins	Morehead	May 13
Russell	J. B. Scholl	Jabes	May 2
Scott	F. W. Caudill	Georgetown	May 16
Shelby	W. E. Morris	Shelbyville	May 14
Simpson	N. C. Witt	Franklin	May —
Spencer			May 9
Taylor	W. B. Atkinson	Campbellsville	May 1
Todd	B. E. Boone, Jr.	Elkton	May 29
Trigg	H. L. Wallace	Cadiz	
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	May 29
Warren	Hal Neal	Bowling Green	May 8
Washington	J. H. Hopper	Willisburg	May 15
Wayne	R. E. Teague	Monticello	May 2
Webster	C. M. Smith	Dixon	May 31
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KENTUCKY MEDICAL JOURNAL

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DIPHTHERIA IMMUNIZATION

Diphtheria has been a continuing serious health problem in Kentucky for years. During the past decade there has not been the drop in the death rate that should have resulted from the strenuous endeavors of county health departments and physicians to protect the children by immunization. While the rate for 1934 was less than that for 1933, too many children in Kentucky are still dying each year from this unnecessary disease. The significance of these facts is paramount in the thinking of physicians throughout Kentucky. It only remains for the public to respond to intensive efforts by organized public health and organized medicine to bring this dreaded disease of childhood to an absolute minimum.

Prompt action is necessary if the useless slaughter of Kentucky's children is to be halted. In the past, a considerable amount of diphtheria immunization has been done in the Commonwealth, in recognition of the axiom that only by immunization may diphtheria be controlled. Unfortunately, however, this immunization has been confined largely to the school age group. The most important group, ranging in age from six months to six years, has been missed, for one reason and another, the principal reason being the difficulty of reaching the children of pre-school age.

With the determination that diphtheria shall be eliminated from Kentucky, the State Department of Health supported by physicians and local health departments, has completed plans for an immunization campaign to cover the entire Commonwealth. This campaign is directed particularly at that most susceptible group of children from six months to six years of age—children in that period of life during which diphtheria is most fatal.

An earnest plea is made to Kentucky's physicians to support and assist in the campaign. No child need today have, much less die of diphtheria. Modern medical science has provided a safe preventative; modern medical practice has conclusively demonstrated its effectiveness. The physician's most modern and most effective weapon against diphtheria is alum-precipitated toxoid. One dose of this toxoid, given subcutaneously and in the amount of one cubic centimeter (1c.c.) produces immunity in 95-99 per cent of children within thirty to sixty days.

At the Annual School for Health Officers, held in Louisville, January 28-31, and attended by all health officers in the State, city and county, the assembled group unanimously and enthusiastically adopted, as the paramount task for 1935, the securing of complete protection against diphtheria for all children in their respective cities and counties.

The State Department of Health is concentrating its energies and its facilities upon an intensive drive directed to immunizing against diphtheria every Kentucky child between the ages of six months and fifteen years. In many counties the campaign has already begun, and during the next nine months physicians, county and city health departments and the State Department of Health will do everything possible for its successful prosecution. Literature is being printed, newspaper articles are in the process of preparation, posters are being prepared and arrangements are being made for lectures and brief talks in every community.

Many physicians have already welcomed the opportunity to fight diphtheria and are giving their services to the task.

Local relief agencies, Red Cross chapters and parent-teacher associations are cooperating to further the campaign. Insurance companies are furnishing literature for wide distribution and have made available the facilities of agents and nurses for publicizing the drive. One company is contributing eight motion picture films, two in sound, for use in every county and community in the State.

In each community the American Legion, business and civic clubs, women's organizations, churches and all other public spirited groups are being asked to help and are responding generally and generously.

Every physician in Kentucky is urged to do everything possible to see that the children in his practice are protected against diphtheria. It is part of the medical profession's responsibility to society to see that such protection is afforded, and it is entirely professional and ethical for physicians to urge their patrons to give their children the advantage of diphtheria immunization. Let us do our part.

NO CORPORATE PRACTICE OF MEDICINE

Almost simultaneously promotion of schemes to capitalize upon the practice of medicine seem to have developed throughout the country. Attempts have been made and are in the making to form corporations to set up some form of medical insurance.

A case in point is that of the United Medical Service, Incorporated, which was recently dissolved, under quo warrento proceedings instituted by the Attorney General of Illinois. Judge McKinley of the Illinois Superior Court, before whom the proceedings were brought, held, in an opinion reported in the Chicago Medical Society Bulletin of March 23, 1935, that the United Medical Service, Incorporated, was usurping the liberty, privileges and franchise of engaging in the diagnosis and treatment of diseeases of human beings, contrary to the Medical Practice Act, and that judgment should be entered ousting that corporation from the franchise, occupation and business of

> "Holding itself out to the public as being engaged in the diagnosis or treatment of ailments of human beings, and from suggesting, recommending or prescribing any form of treatment for the palliation, relief, or cure of physical or mental ailments of persons, with the intention of receiving therefor, either directly or indirectly, any fee, or compensation, and from diagnosticating, or attempting to diagnosticate, operate upon, profess to heal, prescribe for, or otherwise treat, any ailment, or supposed ailment, of another, and from maintaining an office for the examination or treatment of persons afflicted or alleged or supposed to be afflicted, by any ailment; and from usurping, intruding itself into, or unlawfully holding or executing any such franchise, occupation, or business, either by or through the services of physicians and surgeons duly licensed and registered under the Medical Practice Act, and employed and paid by the respondent, or otherwise."

A similar attempt is reported in the making in Kentucky by a group calling itself Citizens' Medical Group, Incorporated. The Jefferson County Medical Society, at a meeting held April 1, 1935, unanimously passed a resolution condemning this attempt in the following terms:

> WHEREAS, the plan of the Citizen's Medical Group, Inc., contemplates a lay group organizing themselves into a corporation, soliciting business from the public, arranging to supply medical services to the public as needed, making agreements with members of the medical profession to furnish professional care, dictating the cost that the public shall pay for medical service and dictating the fee to be paid physicians for rendering that service, and
>
> WHEREAS, this constitutes a grevious form of layman effort to control the practice of medicine, therefore be it
>
> RESOLVED: That the Jefferson County Medical Society express its disapprobation of the plans and purposes of the Citizen's Medical Group, Inc., and be it further
>
> RESOLVED: That the members of the Jefferson County Medical Society pledge themselves, collectively and individually, to render no professiosal service for any one at the instance of Citizen's Medical Group, Incorporated.

It is fair to assume that all such schemes are designed more to exploit the public for purely commercial gain, than to safeguard the public health or to assure suffering humanity adequate and skilled medical service.

At no time in its history has the medical profession of Kentucky done more to coordinate right thinking and to bring about concerted action in behalf of its sick than in the past two years. The Committee on Medical Economics of the State Medical Association, together with similar committees of the Jefferson County Medical Society and other active societies in the State, has courageously, and with the same altruistic purpose that has always dominated the profession, given serious study to the problems facing the profession and the people in relation to care of the sick. Programs looking to practical solution of these problems are already under way in the State and give promise of good results. This, together with the decision of Judge McKinley, should prove sufficient warning to any physician in Kentucky not to align himself with any system or plan of practice not approved by the organized profession.

The Kentucky State Medical Association will bring to the attention of the State Board of Health any promotional schemes suggestive of exploitation and will urge upon the Board that it take prompt and effective action against any doctors who may lend themselves to the practice of medicine under such plans. The medical profession in Kentucky has always maintained and will continue to maintain its reputation for professional ethics and clean practice. It has always met and will continue to meet the challenge given to it by the people of Kentucky as to its responsibility for safeguarding the public health.

Jane Todd Crawford Memorial Service

AUSPICES OF THE

Kentucky State Medical Association

DANVILLE, MAY 30, 1935

To the Doctors of Kentucky:

The monument to Jane Todd Crawford, made possible by your generous contributions, will be unveiled in McDowell Park, Danville, at 2:00 P. M., May 30th. An interesting and instructive program has been arranged for the occasion. It includes a memorial address by Dr. Stewart Roberts, Atlanta, and brief addresses by Dr. Morris Fishbein, Chicago; Judge Basil Richardson, of the Kentucky Court of Appeals, and Mrs. A. T. McCormack, Louisville.

Danville, in the heart of the Blue Grass Region, is making extraordinary effort to give our profession a welcome that will warm the heart of each of us.

All nature will be dressed in its best at this time of the year. You and your friends will enjoy a day spent in the "Basin" of historic Kentucky, which embraces in its fame Fort Harrod, the McDowell Home, Bryan's Station and Transylvania. At the same time, you will be helping to do belated honor to the memory of the courageous woman whose name is indissolubly linked with that of Ephraim McDowell and the origin of Abdominal Surgery.

Come and help us carry through the program.

Your friend,
C. C. HOWARD.



PROGRAM

Invocation	Dr. W. E. Phifer, Jr., Danville
Music	Greensburg Choir
Memorial Address	Dr. Stewart Roberts, Atlanta
Music	Danville Band
Brief Address	Dr. Morris Fishbein, Chicago
Brief Address	Mrs. A. T. McCormack, Louisville
Music	Greensburg Choir
Brief Address	Hon. Basil Richardson
Unveiling	Greensburg, Harlan and Glasgow Girls
Music	Greensburg Choir
Depositing of Sacred Earth	Dr. W. N. Wishard, Indianapolis
Taps	Sgt. Robert Abner, Glasgow

Inspection of Old McDowell Home.

ORIGINAL ARTICLES

ACUTE APPENDICITIS IN CHILDREN*

W. E. Fallis, M. D.

Louisville

It may seem elementary to present the subject of Appendicitis, yet if we consult the vital statistics records we find 25,000 die annually from Appendicitis in the United States, and that approximately 20 per cent of this number are children.

If an apology is necessary for this presentation, I feel that this appalling mortality rate fully justifies this attempt. I am furthermore encouraged in this undertaking by the writings of Lord Moynihan who states that "Appendicitis is a subject concerning which wisdom has not yet descended upon all of us."

Numerous recent reports from European and American sources give the same mortality rate for all acute Appendicitis cases: approximately 10 per cent: —and the mortality in children for similar cases is nearly twice that of adults. These facts are a direct challenge to the medical profession and should stimulate a careful and painstaking search for the necessary means to reduce these figures. It seems unreasonable to believe, yet the fact remains that in spite of all the teachings, newer diagnostic methods and improved operative technique, the mortality rate is higher today than it was twenty years ago. Many reasons have been advanced in explanation of this fact but none fully explains the cause—perhaps the greatest factor is that many operators of different degrees of experience are now doing the work that twenty years ago was done by surgeons of greater experience.

I do not hope to offer the solution of this problem or announce any startling discovery, but I do feel that we can all be materially benefited by reviewing the literature and emphasizing some of the essential facts that have been impressed upon me in dealing with these little patients. One is impressed with the apparent trivial consideration that is given the subject in the text books on pediatrics,—at least the ones I consulted deal with the matter rather insignificantly. Appendicitis in children is serious and alarming; it appears in all the many forms that occur in adults. Our present knowledge of the subject has been attained during our own generation and it calls for heroic treatment. It is an inflammatory disease of the vermiform appendix. Dr. Reginald Fitz, of Boston in 1886, described the nature of the process and introduced the term "Appendicitis." Since this time much has been written upon the subject by such noted surgeons as McBurney, Gross, Park, Deaver, Murphy and Oschner. We owe a debt of gratitude to these stout-hearted pioneer surgeons for their diligent study and untiring efforts.

The literature about appendicitis in children less than two years of age is very scant. Statistics of its incidence are found but are contradictory, the majority of authors give two years as the lowest age limit. Peterson diagnosed appendicitis in a four months old baby and operated on it successfully. All authors are agreed that the younger the child the more difficult the diagnosis. The majority of cases before the third year come to operation after perforation and the prognosis is therefore very grave.

"Kaiser" states, "The fear which many physicians, especially pediatricians, still harbor when they allow a child with appendicitis to be operated on is sufficient reason to report the detailed experience of Gottstein's surgical wards over a period of twenty-five years 1907-1931. Appendectomy was performed on three hundred and sixty-three (363) children between the ages of three and fifteen years,—there was eleven cases in the group up to the third year, thirty-five cases in the four to six year group, sixty-one cases in the seven to nine-year group, one hundred and twenty-five cases in the ten to twelve year group, and one hundred and thirty-one cases in the thirteen to fifteen year group. 40.8 per cent of the cases were chronic, 36.9 per cent were simple acute cases, 22.3 percent of the cases had complications of which 12.7 per cent had abscesses with localized peritonitis, and 9.6 per cent had diffuse peritonitis. These figures show conclusively that complicated appendicitis is much more frequent in children than in adults. There were twelve deaths in this series,—a mortality of 3.3 per cent. Not a single death occurred in the chronic cases and only one death in the simple acute cases.

Appendicitis in children presents the same pathology as in adults but oftentimes manifests itself in quite a different manner; one of the most striking characteristics is the rapidity with which the disease may progress. The large amount of lymphoid tissue present in the structure of the appendix, its thin walls, the imperfectly developed muscular structure, its poor blood supply, and its

Delivered before the Kentucky State Medical Association, Harlan, October 1-4, 1934.

dependent position make it particularly susceptible to infection with rapid disintegration, œdema and strangulation while the imperfectly developed and short omentum does not afford the protection that is present in adults—these are all factors in the rapid progress of the disease. Perforation of the appendix and gangrene during the first twenty-four hours of symptoms are not rare in children.

Simple acute appendicitis is frequently seen with the usual symptoms: epigastric pain, nausea, vomiting, tenderness, rigidity, moderate temperature and leucocytosis which correspond to the typical picture presented in adults. In some cases however the only symptoms present are nausea and vomiting. When a child vomits, everything taken into its stomach, even water, in the absence of all other definite causes, appendicitis should be considered. Pain is the first symptom in the vast majority of acute cases, —this rule however is not absolute; and the old statement that unless the initial symptom in an acute abdomen is pain one may definitely exclude appendicitis is misleading. There are numerous evidences on record which prove that this assertion is absolutely false. I am of the opinion that oftentimes the child will deny having pain because of fear of the doctor. Younger children invariably call it a "hurt." Restlessness, irritability, and the character of the children's cry will aid you in the determination and the location of the pain. One must always bear in mind that the appendix may lie in an abnormal position due to incomplete rotation, visceral transplantation, or excessively mobile cæcum. The pain is of moderate severity in simple cases and, in my opinion, the onset is more gradual than in adults. If peritonitis is present the pain is more severe, and is increased with urination and defecation. I have found that rebound tenderness is a very accurate symptom and peritonitis is usually present when this symptom is present. If a child with abdominal pain can assume an erect posture without increasing the pain it speaks against appendicitis.

Children with appendicitis usually lie on the right side with the right knee flexed; this relaxes the psoas muscle and lessens the pain.

One of the signs which we have been taught to consider of extreme importance in diagnosing the disease, namely abdominal muscular spasm or rigidity is absent in a great many cases in children; the younger the child the less spasm or rigidity will be found. This fact is of especial importance since absence of abdominal muscular spasm or rigidity has been the cause of more delayed diagnosis than any other factor.

Abdominal tenderness is practically always present though in very young children it is often very difficult to determine with any degree of certainty—by careful, gentle palpation the patient will usually say that it hurts when you palpate over the right lower quadrant. Occasionally tenderness may be elicited only by rectal examination. Marked general abdominal tenderness usually means peritonitis.

Constipation occurs rather frequently, diarrhœa is rare but may be present and is a grave symptom, normal bowel movements are by far the most common in the early stages.

The temperature is usually moderately elevated, seldom rising above 102 degrees F. Higher temperatures mean complications. Do not be misled by the absence of temperature, it may accompany gangrene.

The leucocyte count is usually increased ranging from twelve to sixteen thousand in the simple uncomplicated cases; a definite polymorphonuclear increase is the rule. An extremely high count above twenty thousand in the absence of clinical evidence of abdominal complications is sufficient cause for a careful search of some other disease.

A great number of cases show bladder irritations with pain on urination, tenderness over the bladder region, and the presence of red blood cells, pus cells, and oftentimes casts. These facts require especially careful consideration.

A positive prognosis in any given case of appendicitis is an absolute impossibility. It is well enough to have a mental picture of what one thinks is going on inside the abdomen, but with all the means that are at hand to aid us in arriving at a definite conclusion insofar as the amount of damage to the appendix and how much repair we can expect is still a scientific guess.

There are a great many danger signs which impress upon us the need for radical conclusions: first, appendicitis purgation means perforation; second, as long as the pain is present in the early stage the inflammatory process is still limited to the appendix; third, the cessation of pain usually means the emptying of the appendix either into the colon or the peritoneal cavity; fourth, persistent vomiting is indicative of peritonitis, pus formation, or intestinal obstruction unless it is the result of the administration of an opiate; fifth, very high leucocyte counts indicate either a grave infection or a brave fight while an extremely low

count indicates a very feeble resistance or an infective organism of low virulence; sixth, extreme tenderness and marked rigidity are symptoms of grave significance and I believe should cause us to give a much more guarded prognosis than any other signs.

The diagnosis of appendicitis in children is not always easy and occasionally is impossible without an exploratory operation. It is well to bear in mind that after the first year of life the appendix is the most common seat of abdominal diseases and I have made it a practice to consider it first in all abdominal conditions.

The medical man who knows or suspects he is dealing with an acute appendicitis may occasionally be willing to take the risk of delay, but the surgeon who is willing to wait under such circumstances is becoming increasingly rare. He (the surgeon) is willing to risk the performance of the occasional operation that was not necessary, or that might safely have been deferred. He is sustained by the conviction that the mortality from these operations are trivial compared to the lives that are saved and the great illness that is averted by immediate appendectomy in all reasonably suspicious cases. The late Dr. John B. Murphy wrote many years ago that distrust of the inflamed appendix is the only safe surgical frame of mind. Bastinelli says. "When physicians are discussing whether a case is appendicitis or not, it is: when they are inclined to admit the possibility of appendicitis without being perfectly sure, it is about to perforate; when the diagnosis is sure, there is already perforation." If these statements are true of appendicitis in adults they are even more true of appendicitis in children.

A very important consideration is the relation of the duration of symptoms to the type of pathological changes and to the mortality. Urban Maes and his co-workers in a very exhaustive study of this subject found 26 per cent of the whole group (250 cases) had medical attention within 4 to 24 hours of the onset of the symptoms with a mortality of 2.8 per cent, while those in which symptoms had been present 48 hours to fourteen days had a mortality of 10.4 per cent (almost four times as high as the first group). The patients operated on within 48 hours of the onset of the symptoms had a mortality of 10.5 per cent, those operated within the ninety-sixth hour had a mortality of 16.6 per cent. It is the same old story in appendicitis; the mortality increases proportionally with each hour of delay.

The relation of the various types of pathological changes to the duration of symptoms increase proportionately to the delay in seeking medical aid, more than half of the patients seen within the first twenty-four hours of symptoms exhibited types of appendicitis beyond simple inflammatory changes while those cases seen within forty-eight hours, three-fourths of them showed similar pathological changes. Gallie states that approximately 70 per cent of the children admitted to the Toronto Children's Hospital enter with the appendix already ruptured.

The frequency with which upper respiratory tract infections precede attacks of acute appendicitis in children is very striking. Maes reports 92 cases showed a definite history of repeated attacks of tonsilitis, this is more than 1-3 the total number of cases in his report. Dr. J. S. Evans says that the primary respiratory infection precedes the acute appendiceal attacks on an average of sixteen days.

Pneumonia in children is the most likely disease to be confused with appendicitis. Adams and Berger report a series of 145 cases of Pneumonia in children from two to fifteen years of age; in 17½ per cent of these cases the diagnosis was appendicitis. It is always wise to examine the chest of children with acute abdominal pain, if there is a doubt of the diagnosis an x-ray examination of the chest is a valuable aid in arriving at a definite conclusion. One must always bear in mind that pneumonia and acute appendicitis are not incompatable. Maes, Kaiser and other writers on the subject report findings of this character; we have seen two such instances in our own experiences. It is a fact worth mentioning that children with pneumonia and other infections will sleep for long periods of time but a child with acute appendicitis will not sleep and neither will it let anyone else sleep.

I know no better way of stating the serious consequences following the administration of purgatives than to quote Lord Moynihan "For more than twenty years I have not operated on a single case of preforated appendicitis in which the sequence of events has not been purgation and perforation." He also states that the mere giving of a laxative is indication enough for an immediate operation. No one has written so vigorously on this theme.

The treatment of appendicitis is surgical and the sooner the operative measures are instituted the lower the mortality will be. Acute appendicitis in children is an emergency disease; to this rule there is no exception, and operation should be urged in every

acutely ill child when appendicitis can be reasonably suspected. The most experienced surgeon cannot tell the outcome in these cases. The risk of a well executed operation is not comparable to a neglected case. These facts have been thoroughly established in many clinics and no one has a right to hold an opinion about appendicitis which is at variance with established practice.

It has been our practice to use the method of Battle in opening the abdomen. This as you know is the method of reflecting the rectus muscle to the median side and opening the peritoneum behind it, this seems to me to afford all the room one needs and I think leaves a stronger abdominal wall following the operation, thereby lessening the likelihood of a post-operative hernia. When we feel sure that pus is present, I believe the method of splitting the rectus muscle is the better procedure. If a mass is present we prefer to open the abdomen over the mass. After the abdomen is opened the operative procedure will be guided by what is found. If a simple acute appendicitis is present, appendectomy will be all that is necessary; if an abscess is encountered I am usually satisfied to open it, establish the drainage, and make a hasty exit unless the appendix can be removed without any additional extention of the infection. When an extensive peritonitis is present it is imperative to drain and get out; in all cases of this severity it is well to consider doing the work under local anesthetic, spinal anesthetic is very satisfactory in most of the older cases, in very young children, chloroform still seems to be the anesthetic of choice.

I am a staunch advocate of rapid work· one must not sacrifice technique for time. Most any patient can stand a short anesthetic but when one is subject to both anesthetic and operation over a long period of time the vital forces are greatly disturbed and it is with much difficulty that they regain their fighting forces.

Children do not stand starvation well; it is necessary to give some nourishment to prevent acidosis; most of them are in a state of dehydration when they enter the hospital. Saline by protoclysis is a very valuable procedure, it supplies the necessary fluids to overcome the dehydration and maintain water balance; however children do not stand this procedure with the same degree of tolerance as adults. Most of our cases were given hypodermoclysis for the first twenty-four hours using normal saline solution to which has been added 2 per cent of Dextrose. This overcomes the dehydration, neutralizes the acidosis, and maintains the metabolism until sufficient fluids can be given by mouth. The value of the Fowler position it too well known to require any further explanation.

The more frequent sequelæ requiring subsequent operative procedures are, first: fecal fistula which carries a mortality rate of 8 per cent; second: secondary abscesses with a mortality of 22 per cent; third: intestinal obstruction with mortality of 40 per cent. These sequelæ are directly the result of late diagnosis, delayed operation, and insufficient drainage.

I wish to report a series of 86 cases of acute appendicitis in children which came under my care ranging in age from nine months to twelve years. The accompanying chart shows some interesting facts. The cases have been divided into four groups as follows: 1-3 years group (3 cases); one nine months old, one sixteen months old, and one twenty-six months old; one death or mortality 33.3 per cent; the nine months old child had a general peritonitis from a ruptured appendix, the other two had localized abscesses; the four to six year group (17 cases—2 deaths, or a mortality of approximately 11 per cent); the seven to nine year group (18 cases, 2 deaths or mortality of approximately 11 per cent); the ten to twelve year old group (48 cases, four deaths or mortality of approximately 8.8 per cent); total number of cases 86, total number of deaths nine or mortality of approximately 10 per cent. Number of cases receiving purgative 54, number of cases requiring a drainage 44, simple acute cases 38, gangrenous cases 20, number of cases that were ruptured with degrees of peritonitis 14, number of cases with localized abscess 14. No deaths occurred in the simple acute cases.

In conclusion I wish to emphasize three facts: first, that the pathological process in children up to twelve years of age is far more rapid and severe than it is in youth and early adult life; second, that the gravity of the disease depends upon the difficult of diagnosis and the frequent administration of drastic purgatives as well as the virulence of the infecting organism; third, that the outcome in every case depends not so much upon the exact technical procedure adopted as it does upon the promptness with which it is instituted and the wisdom displayed in the performance.

DISCUSSION

J. W. Bruce, Louisville: The diagnosis of appendicitis in children is a great deal more difficult than it is in adults. We ordinarily think

of the triad of tenderness, pain, and rigidity in the right lower quadrant as being the points on which to make a diagnosis. Each one of those things is more difficult to elicit in a child than in a grown person. In the first place, the child is non-co-operative, it is hard to get any kind of symptoms out of him. When the doctor comes into the room he is apprehensive, he is apt to cry, and if he cries it is impossible, of course, to make any kind of abdominal examination.

When you ask a child where he hurts in the abdomen, he will invariably point to his umbilicus, no matter where the pain may be; he will put his finger on his umbilicus nine times out of ten. When you try to palpate the belly and find out where the tender point is, it is only by noticing the change of expression on his face that you can usually tell definitely where the tenderness is. His say-so as to where the pain is, is usually pretty unreliable. The rigidity, as Dr. Fallis has pointed out, is much less marked in children than it is in adults. In fact, there may be quite extensive disease sometimes with very little rigidity at all.

The rectal examination, which has been stressed by so many writers, I have found to be rather an unsatisfactory thing. It should be attempted, of course, but most little children when you attempt to do a rectal examination are very apt to cry, and of course if they get to crying or struggling the rectal examination is of very little use, but it should be attempted, and sometimes it is of great help.

The chief thing that we have difficulty in diagnosing from appendicitis is pneumonia. In the early stages of pneumonia the onset is frequently with vomiting, pain in the belly, and fever. The attention of the child and of the family is natually attracted toward the abdomen and they usually think the child has appendicitis.

On physical examination of the chest in a case of pneumonia the first few days, very very little is revealed, and in fact about the only thing that you get in the first few days is a little suppression of breathing over the location where pneumonia is going to develop; you get very little else, no change in percussion, no change in breath sounds appreciably, just simply a little suppression of breathing.

A point that will help you a great deal in making a differential diagnosis is the degree of fever. In pneumonia the fever is high; in appendicitis it is usually low. In a child with a temperature above 102 I always feel a good deal more suspicious of a chest condition than of an abdominal condition.

The leukocyte count, of course, is apt to be higher in pneumonia than in appendicitis.

The tenderness in pneumonia, or rather the pleural pain which is referred to the abdomen, which of course causes the abdominal symptoms, is a good deal more superficial than it is with appendicitis, and frequently on deep palpation the tenderness will disappear, whereas with appendicitis it gets more severe the deeper in you get.

The treatment, as Dr. Fallis has said, is surgery, and surgery just as quickly as possible. Occasionally we see a case with a very slight elevation of temperature, probably a half degree leukocyte count, normal Schilling count, in which we feel safe in waiting, but I always have more or less apprehension about waiting with any child who has a definite diagnosis of appendicitis.

George A. Hendon, Louisville: I believe it is a pretty well established fact that appendicitis in the extremes of life is more liable to localize and abscess. Of course that makes drainage a very important phase of treatment. I want to present that subject to you in a way that is new to me.

We have all regarded the question of drainage with a considerable amount of dependence upon luck. We place a tube into the body of the patient and we lay the other end in the lap of Lady Luck and almost anything is liable to happen.

We have devised a very simple apparatus which lends itself most ingeniously to the drainage of all body cavities. It presents advantages that are very much superior to the fortuitous tactics to which we have been accustomed.

I mean drainage that includes the intestinal tract, as well as the peritoneal cavity. I am therefore submitting slides illustrating an apparatus that is simple and efficient. It depends for its action upon a hydrostatic vacuum that produces sufficient negative pressure to draw out the liquid contents of the body cavities.

Philip F. Barbour, Louisville: Dr. Fallis has emphasized that it is necessary to enter the abdomen as promptly as possible after the diagnosis of appendicitis has been made. I saw one case that Dr. Abell operated upon for me that had a perforation of the appendix within four hours from the first symptom that the child presented, so there is not a very long time to waste.

The question of diagnosis is the most important and the most difficult part. (I am not questioning the ability of the surgeon). At the last meeting of the American Academy of Pediatricians this matter of abdominal pain in children came up for discussion, and the head of the Children's Hospital in Boston reported 500 cases of children that were admitted on account of pain in the abdomen. These cases were followed through to recovery or to operation or to death and autopsy. Of these 500

cases that complained of pain in the abdomen, only 15 per cent were surgical cases; 85 per cent were cases of referred pain.

I recently had a conversation with a physician in Louisville on a case of supposed appendicitis, which proved to be an acute infection of the tonsils, and just remember when a child complains of pain, even if it has the symptoms of nausea, temperature, accelerated pulse, look at other places—tonsils, ears, pneumonia, as Dr. Fallis and Dr. Bruce both have emphasized, pleurisy, and don't forget that there are other abdominal conditions which may also give rise to pain in the abdomen besides the appendix; an acute kidney will simulate appendicitis.

Children do not localize pain accurately as do adults. As Dr. Bruce has brought out, if a child has a pain in the belly it is nearly always referred to the naval. So when a child has a pain you can't always press your finger at McBurney's point and elicit pain there. The child may be apprehensive and put on a muscle guard, or the child may be trying to deceive you and will let the belly go.

I think one of the most reliable symptoms for pain localized over the appendix in the child is pain on released pressure. Dr. Fallis states that when you get pain on released pressure you have already peritonitis. I have had several such cases operated upon that did not have peritonitis but had appendicitis. I think that is one of the most illuminating of all the symptoms. You do not have to put your hand over the appendix; you place your hand on the other side of the abdomen, press deeply, and then release suddenly, and the child will flinch and say "Ouch!" When you get that symptom you had better get inside the belly and see what the trouble is.

The difficulty that we have in children is that we fail to examine the child all over before we make our diagnosis. Just remember that 85 per cent of pains in the abdomen may be due to other things than appendicitis.

Wallace Frank, Louisville: Dr. Fallis has given us a most timely paper, and I rise to emphasize some of the points that he brought out. As he said, the mortality from appendicitis has been on the increase in the past fifteen or twenty years, and this has been due largely, I think, to the fault of the surgeon in that we taught the medical man that many cases of acute appendicitis subside when starved, treated with proctoclysis and the ice-bag, and consequently the medical man is treating a great many cases that should be operated. Hence many cases are not brought to the surgeon until the disease has progressed to the point where peritonitis has set in.

We know that in the extremes of life the mortality from appendicitis is about twice as great as in the mid-period of life. As the essayist has said, the disease progresses much more rapidly in the young than in those in mid-life. As he stated, the large amount of lymphoid tissue in the appendix probably accounts for it. I believe it can be accounted for on another basis also. It has been our experience that we do not see in children as many cases of appendicitis due to colon bacillus as we do in the mid-period of life. A great many of them in children are due to streptococci, and this explains to a certain extent the rather frequent association of respiratory conditions with the attack of appendicitis.

This past summer we saw six cases of appendicitis in children in which the streptococcus was the chief organism. I would urge that surgeons take smears on all their cases of appendicitis. It gives you a much better idea as to the prognosis.

Of those with colon bacillus infection approximately 95 per cent get well. In those with streptococcic infections, with the infection spread beyond the appendix, in other words local peritonitis, one should be guarded in telling the family what the end result will be. Not infrequently you find a case will go ten or twelve days and die of a slowly developing streptococcic peritonitis.

W. E. Fallis, (in closing): I want to endorse what Dr. Frank said. He is absolutely right. Your abscess is not due to streptococci and therefore you have an increased mortality rate, when a general peritonitis is present.

I want not exactly to differ with Dr. Barbour, but I want to say that in my experience any patient who has rebound tenderness has peritoneal irritation; he may not have a definitely established peritonitis, but he certainly has peritoneal irritation in his appendix; either that or extreme tension inside the appendix is responsible for the positiveness of that rebound tenderness.

I want to say just one more word and that is that if you look at this report in this paper, I think you will agree it is terrible to have a condition in which over 50 per cent of the patients you operate on have to be drained. That is not our fault, but it is because the laity have not been taught that kids with a stomach ache should have an enema instead of a dose of salts. I think perhaps that is the best way to put it.

We lost none of our acute simple cases; they all got well. The ones that died were the ones that had general peritonitis from a ruptured appendix, like the case that Dr. Wallace Frank described, in which they had tonsillitis, pharyngitis, or some other upper respiratory infection several days or two weeks beforehand. They are the ones we lost, not the colon bacillus infections.

In this series of eighty-six cases the average length of time that the patients had been sick was sixty hours. That doesn't occur in adults. You operate on them before the twenty-fourth hour in at least fifty per cent of the cases and forty-eight hours in the other twenty-five per cent, and therefore they get well.

We lost none of our simple acute cases, which represented forty-three per cent of the total.

The complicated cases represented fifty-five per cent of the total cases. They included gangrene, abscess, and general peritonitis.

Purgatives were given in sixty-three per cent of the total cases, and drainage was required in fifty per cent.

I appreciate the discussion, and I think we all have a big lesson to learn, that we must get over to our clients and our patients the fact that our little patients with stomach ache should be sedated and not purgated.

SINUSITIS IN CHILDREN*

Sam B. Marks, M. D.

Lexington

It is a well established fact among men of our specialty and pediatricians that children especially between the ages of four to ten years, are extraordinarily susceptible to sinus infections. This fact is due first, to the anatomical development of the sinuses at this period. The antra are present at birth, though small and high above the oral roof. So are the ethmoid cells, particularly the anterior ones, and although the sphenoid does not assume adult proportions and locations until the age of twelve its development is well under way at three years. The same is true of the frontal sinus, but the rudimentary sinuses in both these locations are capable of infection.

The other reasons for high incidence of infection in children are their extreme susceptibility to respiratory infections of every kind, the large sinus openings and the undeveloped state in the early years of this highly selective mucous membrane coupled with an infantile lack of immunity.

Sinusitis in children is particularly common in the poorly nourished, poorly housed, poorly or improperly fed and particularly so when in addition there are added frequent, especially extreme climatic changes, too little sunshine, too scant clothing and in summer too much swimming.

Many other factors contribute and are of paramount importance, principally allergic tendencies, whether primary to infection or secondary to it and last but not least anything of any nature whatever which interferes with proper ventilation and drainage of an infected nose of which the adenoid is the chief offender accompanied as always, except sometimes in the very young, with infected tonsils. Dean says early operation in such cases will cure 80 per cent of them.

Endocrine imbalance and calcium deficiency and too high an alkaline diet as is obtained by too much carbohydrates play an important part.

The causative bacteria are usually the various streptococci and staphylococci, but any germ or virus which finds habitat in the upper respiratory tract may be the offender particularly those causing the exanthemata and other infectious diseases.

The symptoms are chiefly those of repeated or persistent colds frequently with coughs, excessive discharge from the nares which often irritates or excoriates the adjacent skin or which if discharged posteriorly, is manifested by constant sniffing and swallowing and leaving in its wake a red granular posterior pharyngeal wall streaked with muco-pus, which is the most positive diagnostic sign of all. In addition lachrymation, often with suffused conjunctiva and lid swelling, may be present.

Headache is rare in children or rarely complained of, except in those cases where the infection is blocked in a sinus. When in the anterior sinuses redness, swelling and tenderness are present and not infrequently an orbital abscess occurs evidenced by swelling of the lids, edema of the conjunctiva, pushing forward of the globe and pointing and rupturing through the lids, if not given drainage. Such abscesses in the orbit occur from the antrum or from the ethmoid cells. Infrequently a superficial abscess may occur at the inner angle of the eye over the nose from an anterior ethmoid cell or the still undeveloped frontal cell but such a swelling is usually due to an acutely infected and blocked tear sac.

The diagnosis is not difficult when it is borne in mind that the common cold is of short duration, is rarely accompanied with the excessive discharge of muco-pus which is pathognomonic of sinus disease. A careful history, as in all conditions, is of great importance and especially as an aid in ruling out or establishing the presence of some allergic sensitization.

The mucous membrane in acute cases is red and swollen and often in cases with chronic tendencies, while the mucous mem-

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brane of the allergic or hyperesthetic state is pale, edematous and very moist with thin clear secretion though always mixed with pus in the presence of a superimposed infection.

Transillumination and X-ray are valuable aids, particularly the latter, but are rarely needed for diagnosis in children. Antral irrigation is often necessary to establish diagnosis, as is careful study of the nasal secretions for a high eosinophile content, counts being made upon more than one occasion, and blood counts to determine the presence of an allergy.

The treatment from a prophylactic standpoint is highly important as good housing, sanitation and hygiene with fresh air and sunshine and ultra-violet and infra-red lights are often preventative. The diet should be rich in vitamins A and B, as butter and other fats, vegetables and fruit juices, greens, spinach, carrots, lettuce, etc. Spintrate, a powdered spinach is useful and at the Cincinnati Childrens Hospital much dependence is placed upon alcoholic extract of alfalfa, to all of which can be added cod liver oil or haliver oil. The adenoid and enlarged or infected tonsils should be removed in all susceptible cases or the adenoid alone where tonsillectomy is inadvisable. Such children should always be carefully studied for allergic conditions and endocrine imbalances which if possible should be corrected.

All these prophylactic measures should be instituted in active cases, acute or chronic and in the presence of colds which are really or potentially sinusitis.

Every effort should be used in acute cases to establish and keep established the best possible nasal ventilation and drainage by the use of aqueous ephedrin solution in the strength of 1½ per cent to 3 per cent to be followed in 5 to 10 minutes by warmed 10 per cent solution of argyrol every 2 to 4 hours. Such drops, 5 to 10, should be used with the head fully extended over the lap or over a pillow and then turn and allow the head to hang down with expectoration in this position.

Suction, gently done, is advisable in older children although some men advise aspiration with a small catheter with several holes in it and a suction bulb in any age to remove excessive secretions.

Acute cases should be kept in bed in a warm, well ventilated room and surgery is rarely indicated except in the presence of orbital abscess or some other acute complication when an external operation is always indicated.

After the attack has subsided tonsillectomy and adenoidectomy and other operations to establish proper nasal ventilation must be considered.

The above is true and really more so in chronic cases and often one or both maxillary sinuses must be opened as well. The best and safest method for this in my hands has been the use of a strong curved artery clamp, shoving the inferior turbinate over to the septum and then introducing the closed point high up and well back beneath the inferior turbinate and then opening the clamp and drawing it gently forward. Such a procedure makes a sufficient opening for after treatment, does not disturb unerupted teeth and can be quickly done at the time of the tonsil and adenoid operation but should always be preceded by a diagnostic tap made with a fairly small needle and the injection and withdrawing of 2 or 3 c.c. of saline solution, which will always bring out the secretion should any be present.

Autogenous or stock vaccines or bacterial filtrates sometimes are helpful.

Vitamins A and B are of little use after the infection has penetrated beneath the mucous membrane and fruit juices are best for alkalization as they do not disturb the acid-alkaline balance of the organism.

Calcium, best given as a parathyroid extract, stimulates the action of the cilia and Shurly of Detroit uses Carotene dissolved in olive oil as a substitute for cod liver and haliver oil.

The complication and sequela of sinusitis in children are chiefly middle ear and mastoid infections with enlargement of the lingual tonsil, cervical adenitis and acute bronchial and pulmonary conditions, not infrequently terminating in lung abscess or one of the chronic pulmonary conditions common to children.

The most frequent broncho-pulmonary lesion is bronchiectasis which is usually accompanied by the causative sinusitis which is quite often located in the posterior ethmoid and sphenoid sinuses and is the initiation to a life long disorder, frequently diagnosed as tuberculosis and demands most careful consideration in its diagnosis and elimination of both the sinus condition and the bronchial condition. Such cases require most careful local treatment, special feeding, lots of sunshine and the avoiding of a changeable climate in the cold months.

Intracranial complications are by no means rare, such as cavernous sinus, throm-

bosis, brain abscess, meningitis or encephalitis.

Digestive disorders, gastro-enteritis, rheumatic fever, arthritis, nephritis, pyelitis, cardiac failure with muscular changes and asthma sometimes follow and in chronic cases anemia, loss of appetite and malnutrition are quite common and not infrequently associated with headaches, especially in the presence of some food allergy.

DRUG ADDICTS*

Thomas J. Crice, M. D.

Louisville

Any study of the so-called narcotic drug problem involves a study of when, where, and under what circumstances addiction occurs.

The use of habit-forming drugs is not limited to any one class of society, for it has been found among the high and low, the rich and poor, the weak and the strong. It has been estimated that 80% of the addiction occurs in the underworld, but this estimate cannot be accepted as being in any wise accurate, for the drug addicts of the underworld are more likely to come under observation than those in the middle and upper classes.

It should be pointed out that no one occupation has a monopoly of the practice of using habit-forming drugs, and no nationality, race, color or social class is exempt for drug addicts are found in most unexpected places.

Contrary to widespread belief, some drug addicts are engaged in lawful and gainful occupations. These are users accustomed to small doses kept constant for years. Those who tend to increase their dosage are more often found among the irregularly employed, the unsteady, and the floating, loafing population of a community.

In the cases coming under observation, males predominate among drug addicts in the proportion of about four white males to one white female. The proportion of women is somewhat higher among the Negro group. A very large number of women drug addicts who come under the scope of observation are prostitutes.

Studies of the nativity of drug addicts indicate that there is no significant difference as to foreign or native born, or foreign or native parentage, but that these percentages follow the general population groups.

Separation and divorce are more common among drug addicts than in the general population, divorce occurring about five times as often. Widows and widowers are also found more often among addicts. Marriage among female drug addicts occurs in about the same frequency as marriage among females of the general population. Marriage of male addicts, however, occurs with less frequency than marriage of males in the general population.

The educational status of persons addicted to the use of drugs is somewhat higher than that of the general population; illiteracy, however, occurs somewhat more often among those addicted About the same proportion of drug addicts finish high school or go to college as is observed in the general population, but there is a relatively higher proportion of the professional classes in the addict group.

Drug addiction is most prevalent in the larger urban centers. It is also observed in smaller cities and towns and in rural communities. Prison commitments indicate that drug addiction is very widespread and that its geographic distribution compares with the density and geographic distribution of the general population of the country.

Addicts are found in all age groups above 15 years. Relatively few come under observation during the first two decades of life; about 1-5 in the third decade, and more than 1-3 in the fourth decade, or about 57% under the age of 40 years. About 1-3 are represented in the period between 40 to 60 years, and relatively few after 60 years of age. Drug addiction is therefore represented in each age period above 15 years, but with a greater concentration in the 25 to 45 year age groups.

These observations apparently indicate that addiction to the use of habit-forming narcotic drugs is wide-spread throughout the United States; that all classes and groups of the general population are affected in one way or another; that occupation, periods of life, nativity, sex, color, marital or educational status, are not exempting factors. It appears that drug addiction is somewhat like an endemic disease, for it is through and on the people. If this is true, drug addiction constitutes a medico-social problem of concern and importance to local jurisdictions, to the state and to the nation.

The economic loss to communities caused by drug addiction should be of interest to the legislator, to business, and to the practical administrator of public affairs. Intan-

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gible but important is the economic loss through addiction in the prime of life, and the suffering and depredation of individuals whose families are frequently impoverished thereby.

It is impossible to determine the exact number of narcotic drug addicts in the United States. Various estimates have been made, however, based on a variety of factors and approached in different ways, with final figures advanced from 90,000 to 150,000. It is highly probable, according to some authorities, that there is not more than one narcotic drug addict to each 1,000 of the general population of the United States, and any estimate in excess of two per 1,000 is considered an exaggeration. However, it is not so important to determine the exact number of addicts in the country as to determine the extent to which addiction affects the various groups of the population, and whether or not it constitutes a medico-social problem demanding solution.

CAUSES OF ADDICTION

Ease of access to habit-forming drugs must be considered an important causative factor in addiction. The more immediate causes of addiction, however, are related to the previous uses of such drugs in medical treatment, to self-treatment for the relief of pain, to recourse to drugs during emotion distress, to the influence and association with others who are habitual users, to overcome drunkeness, and to indulgence for the sake of experience, curiosity, or a thrill.

Of course, the most important factor is the inherent constitutional make-up of the individual, the nervously unstable person being more prone to become addicted to the use of drugs than the one with a stable constitution. Mental hygiene, therefore, enters into the problem.

Drug addiction, like chronic alcoholism, becomes established at a much earlier age than is ordinarily supposed. It is usually established later in life among those who handle drugs professionally than among those who do not. Among those who handle drugs professionally, less than half become addicted before 40 years of age; among those not handling drugs professionally, almost half acquire the habit before 25 years of age and 2-3 before 30 years of age.

Among those handling drugs professionally, more than 3-4 attribute their addiction to the previous use of drugs in medical treatment or to self-treatment for the relief of pain. Only a few attribute their addiction to a desire for experience, to association with other addicts, etc., but among those who are not authorized to deal in drugs, almost half attribute their addiction to contact and association with other addicts. A proportion, also, attribute their addiction to the previous use of drugs in medical treatment and to self-administration for the relief of pain, while others acknowledge a desire for experience or thrills.

PREVENTION OF ADDICTION

Efforts have been made in various ways to restrict and govern commerce in narcotics. If smuggling supplies from countries which manufacture these drugs in excess of their medicinal and scientific needs could be stopped entirely, it is possible that our system of domestic control might be found quite adequate to restrict the spread of the habit. But since association with other addicts is an important source of acquiring the habit, the isolation and segregation of addicts with the object of treatment, in somewhat the same way as the insane are segregated for treatment and not for punishment, would be of inestimable value. That there is a trend toward this movement is shown by the fact that Congress has authorized two institutions one at Lexington, Ky., and the other near Fort Worth, Texas, for the confinement of drug addicts who have committed offenses against the United States.

Certain educational factors among professional groups likewise should be employed. Investigation has shown that drugs are sometimes prescribed when not absolutely necessary and when the use of them is ill-advised. Sometimes they are prescribed for the mere satisfying of addiction. Since it is known that addiction is more readily induced in persons of inherent mental or nervous instability, greater care should be exercised in prescribing for the unstable.

It is possible that abuses of narcotics might be avoided or prevented by substituting non-habit-forming drugs whenever possible. When the use of habit-forming drugs is necessary, however, care should be taken not to give larger or more frequent doses than are necessary. Patients requiring daily usage should be seen often by the practitioner, and the amount of drugs ordered or supplied should not exceed the amount required until the patient is seen again.

The use of the drug should be discontinued immediately when no longer required; and if a craving has resulted, close supervision and appropriate treatment should be maintained

until the patient has been made independent of the drug.

Particularly pernicious, it seems to me, is the easy access to the public of the veronal group of drugs. Anyone may order by telephone and have immediate delivery of alanol tablets, veronal tablets, or elixir of luminol, and because of this ease of accessibility, the use of these drugs has become widespread. Often alcohol is used to "taper off" a veronal intoxication, and not infrequently the use of morphine is initiated after long use of veronal. Its common use causes wonder that distribution of veronal and related drugs is not supervised under the Harrison Narcotic Law.

At the Narcotic office in Louisville about a year ago I met a special Narcotic Agent. He was uneducated, of the abrupt and dogmatic type, but he made some statements based on his 25 years of experience that were startling.

He made the statement that there is no real authority on the subject of drugs and that the treatment of drug addicts by the medical profession is a farce. When asked what type of treatment addicts in government prisons were given, he stated that the prison physicians place the addicts in confinement where they become overweight.

During a thirty-minute period spent in his office, I saw perhaps a dozen morphine prescriptions brought in, and as the agent put them in file, he said, "This is an example of the character of treatment that you doctors are carrying on under the camouflage of treating addicts." He stated that there were more than 500 physicians in Kentucky using drugs, which seems a severe indictment of those who are in a position of trust and honor in the handling of narcotics.

It is surprising in this connection, how few physicians know and understand the Harrison Narcotic Law, although they are charged with great responsibility in its execution. For instance, no doctor is allowed under the law to prescribe an opiate for a known addict under any circumstances unless that addict will consent to go to a recognized hospital or sanatorium where a reasonable system of treatment can be instituted.

Many doctors disobey the law because they are ignorant of its stipulations; others disobey it wilfully for the sake of fees. Not so long ago a doctor of good reputation from out in the State came into my office with his lawyer and a very prominent Louisville physician. It seems that a drug addict suffering with gall bladder disease had visited the office of the doctor out in the State and that morphine was prescribed for him liberally. In a week the patient returned for another supply. This was furnished, and ten days later the doctor was under Federal indictment. My attitude doubtless seemed uncompromising to these callers, but such an action on the part of a supposedly reputable physician is inexcusable. A week later the case was compromised in the Federal Court for $500.00, and the doctor forfeited his narcotic license for one year.

It seems to me that we physicians cannot take our responsibility in the supervision of prescribing drugs lightly if we would not be false to the ideals of our profession.

In conclusion, then, I would state that drug addiction is a medico-social problem: that a public policy which treats drug addiction solely as a penal and correctional problem is not contributing to its solution; that measures for prevention demand the full cooperation and counsel of organized agencies representing the professional groups concerned; that fundamental research is essential for the establishment of more accurate knowledge concerning the chemistry of alkaloids, and for the discovery, if possible, of satisfactory non-habit forming drugs to replace the habit-forming narcotics now in use.

DISCUSSION

W. E. Gardner, Louisville: It has been a great pleasure to hear this valuable paper by Dr. Crice, my one-time associate in the state hospital service. He has covered the subject in such a satisfactory way that there is really very little to say except in the matter of complimenting him on the splendid paper.

He has treated the subject largely from a public health standpoint, calling attention to the medical and social aspects of the situation, which are of very great interest to all of us.

I think as time goes on we perhaps have learned a great deal more about the nature and causes of drug addiction, but the treatment certainly has been most unsatisfactory. As Dr. Crice has stated, in the majority of instances the individual who becomes addicted to drug is emotionally unstable. The addiction to the drug is really an expression of this instability. I have often said in lecturing to medical students, if the constitutionally and emotionally unstable individual who becomes addicted to a drug as the result of painful disease or emotional stresses and strains to which he is subjected could always have just the right amount, a small optimal dose of morphine, and never increase that, in some instances he might be more normal with it than

he would be without it and perhaps would be able to carry on his occupation better. Of course this is impossible. Once he begins the use of a narcotic the dose usually is gradually increased.

Those of us who have pretty good inhibitions and are able to adapt ourselves reasonably well to stresses and strains perhaps do not understand the great struggle that individuals have who become addicted to a drug. We know that in some of our most outstanding citizens of the state, business and professional men, we sometimes have accidental addiction to a drug and it has been a distressing situation. They seek treatment one place and another, and sometimes they get temporary relief, but the mistake is that they go back into the same environment, the same stresses and strains, begin to work too soon, suffer from insomnia, without taking adequate rest and prolonged periods of convalescence. It is unusual in private institutional treatment to get drug addicts really to stay under observation and treatment long enough to become sufficiently stabilized that they can go out and take up their usual work without very great danger of relapse.

I was rather surprised at the statement of the narcotic agent that there are 500 physicians in the state who are drug addicts. I think these agents, unconsciously assume a good deal and many overstate the numbers to some extent. We should be very careful about suspecting drug addiction among doctors. I have had the experience several times of treating physicians who were constitutionally and emotionally unstable, somewhat depressed, suffering from a neurosis, or a psychoneurosis, and other physicians would ask me, "Isn't Dr. So-and-So using morphine?" In several instances it has been my pleasure to deny most vehemently and truthfully that such a condition existed.

I think we should keep an open-minded, charitable attitude because even if the individual does become a drug addict, he is to be more pitied, of course, than censured; he is a sick individual, and he simply is compromising with the situation in the form of neurosis, which expresses itself in the use of this drug, which probably builds up his inhibitions and enables him to carry on somewhat better, at least temporarily.

Dr. Crice did not go into the method of treatment, which, as he indicated, has been unsatisfactory. The establishment by the U. S. Government of these narcotic farms, one at Lexington and one at Fort Worth Texas will be looked forward to with a great deal of interest by the medical profession and will serve as a yardstick for the profession, not only for more detailed, intimate study of the personality and characteristics of individuals who become addicted to drugs, but also the methods of treatment and the length of time they should be kept under supervision, et cetera. I understand that they will care for people who violate the Harrison narcotic law and also for certain employees of the Government who have the privilege of admission to these institution.

Arthur T. McCormack, Louisville: There are sixty-eight narcotic habitues among the physicians of the state who are taking morphine to the extent that charges have been preferred against them before the State Health Department by the Federal Narcotic Bureau. It is a little difficult to compromise Dr. Crice's and Dr. Garner's statement with the law. The law was written on the statute books through the influence of the American Medical Association, and the drug habitue is forbidden to practice medicine under the law on the ground that he is unstable and that he is not a fit person to practice medicine. We have got to try these cases and determine the matter very shortly. They will all be before the Board within the next sixty days. We will probably spend two or three weeks in the trial of these narcotic cases.

It is a constant source of humiliation to the profession, and helps as much as probably any other one thing in destroying our influence and standing. We are having an increasing number of our doctors sent to the penitentiary for violation of the Federal narcotic law. We ought to understand it by now, it has been on the books long enough. You cannot write prescriptions for drug addicts unless you have them in an institution and under your control without violating the law, and if you are writing prescriptions for drug addicts in violation of the law they are going to get you just as sure as anything, and there is not a chance on the face of the earth of keeping from going to the penitentiary. That is the law, and until it is modified you had better comply with the law, because there is no defense against it at all. You don't stand any chance on the face of the earth when you go into Federal court under those charges; you are sent straight over the line. Then we revoke your certificates and you are in a hell of a fix.

George A. Hendon, Louisville: I want to throw out a word of caution in regard to strangers who come into your office complaining of stone in the kidney. That is the favorite plea now of drug addicts. I have had two in my office lately complaining of stone in the kidney, just wanting a prescription to tide them over to the next day. Be careful about those fellows.

I have noticed in operating on drug addicts that the wounds are prone to suppurate.

G. G. Thornton, Lebanon: I want to add a word to what Dr. McCormack has said about addicts. I have had the same experience that my friend Dr. Hendon has had. I would just like to know what to do about it. A man came into my office and represented himself as a veterinary surgeon. He had charge of a pure bred stock farm out about ten or twelve miles from town, of which I hadn't heard, but I didn't know but what it was so. He said, "I am a victim of tuberculosis, I am a veteran of the World War, and I am subject to hemorrhage. Just in the last few hours I have had a hemorrhage." He coughed, went to the basin, turned on the water, and spit out what seemed to be pure blood. He told me he had been ordered to a sanitarium but he used just a little morphine to check the hemorrhage, he always did, and I gave him a prescription for two or three doses, and I found out afterwards that he had worked some other doctors the same way. Instead of spitting blood, he had a carmine tablet in his mouth that he had chewed up, and it only had the semblance of blood.

T. J. Crice, (In closing): The question is, what is the public going to do with these people? They are here among us, but we don't know where many of them are, where they live, or what they do. The danger of contamination of a non-user is great, for an addict is always eager to introduce the delights of the drug and to have another person join him in taking it. I am particularly concerned regarding the veronal group because of its easy accessibility. I have observed quite a number of persons starting to use veronal and whiskey casually, but the habit is not long in being fixed.

I do not feel that there is particular danger of the spread of the use of narcotics among medical men, and I cannot but believe that the Narcotic Agent made an over-estimate in stating that 500 doctors in Kentucky were taking morphine.

As to doctors who promiscuously and perhaps thoughtlessly give hypodermics in their offices or even write prescriptions for morphine —they are laying themselves liable, as Dr. McCormack said, to indictments, fines, and even imprisonment. It is a serious thing to do, even if done only in an attempt to relieve pain, or as an accommodation. For his leniency, such a doctor may be caused deep embarassment and have his usefulness to his profession destroyed.

I am greatly indebted to Dr. Gardner for his enlightening discussion following the reading of my paper.

AMEBIASIS*

FRANK M. STITES, M. D.,
Louisville

This title is selected because in this paper we are dealing entirely with the primary infection and not with the manifestations in other parts of the body, preferring to discuss the symptoms varying all the way from mild digestive disturbances to the more virulent types of dysentery. It is an infectious disease of widespread distribution, contrary to previous opinion, and caused by an invasion of the walls of the large bowel by entameba histolytica. It has been known in our country rather as of occasional occurrence but in recent years it has been recognized as being more frequent and even endemic in certain localities and still more recently assuming a rather widespread distribution over our entire country. In its early years of recognition it was thought to be a tropical disease because of its prevalence in such climates and because of the dysenteric manifestations in those regions enabling an easier diagnosis. But a review of the history shows that it was first diagnosed and the parasite first described in Russia in 1875 and first in our country by Osler and Stengel in 1890 and Musser in 1891.

A recent review of the prevalence of this infection in our country has shown considerable variance by those studying its incidence, but a conservative summary seems to indicate that between 5 and 10% of our population have the infection. With this proportion of cases existing in our midst it behooves us to be more familiar with its incidence, the mode of transmission, the methods of diagnosis and the lines of treatment both prophylactic and curative. Not enough thought has been given to amebiasis as a public health hazard.

Present day methods of sanitation make general transmission by water supplies, food and milk supplies rather unusual. But the recent outbreaks have undoubtedly been traced to food handlers who themselves are amoebic carriers and who transmit their infection because of lack of care in personal cleanliness.

The percentage of carriers among food handlers has been rather alarming in the various studies made in our urban centers and it would behoove us to continue this work that has been so thoroughly started.

*Read before the Kentucky State Medical Association, Harlan, October 1-4, 1934.

But in this paper these preventive measures need not be discussed in detail.

Not only as a military question but because of its spread among civilians, Amœbiasis became of considerable importance soon after the Spanish American War and again since the recent World War. Various estimates have placed its incidence from 8 to 10% of those returning. Our American profession is just awakening to the importance of amœbiasis as a public health hazard. The recent epidemic has shown us that in this country social status plays little or no part for it has been found in all classes.

The period of incubation has been rather difficult to determine and Craig states that it is absurd to endeavor to state an incubation period as we usually think of such. Others state variable periods as 10 to 100 days and from personal experience I can state a definite incubation period of 48 hours.

Almost as difficult as the discussion of the incubation period is the grouping of the cases, but probably as satisfactory as any classification is that of Strong in Nelsons Medicine;

(1) Mild or latent
(2) Acute onset
(3) Advanced or chronic form.

As to what determines the severity of a case, there is much discussion, but Dr. F. W. O'Conner of Columbia University maintains that the pathology is dependent upon the size of the Endameba Histolytica. Certainly the Chicago study would support this opinion. One other possibility would be that of individual immunity as suggested by Craig's serum reaction. Craig also makes about the same classification as Strong, namely,

(1) Carriers-presenting no symptoms
(2) Those presenting mild diarrhea and other definite symptoms
(3) Those presenting definite attacks of diarrhea with no blood or other dysenteric symptoms
(4) Those presenting definite acute dysenteric symptoms.

Of especial interest in this group is the large percentage of carriers, namely 40-50% of cases in this country are in this class, and only discovered in routine examinations and free from clinical symptoms but potential source of infection as has so recently been proven.

The second group is also of particular interest in that so many of the cases of the recent outbreak are in this classification, namely those with mild gastro-intestinal symptoms varying from mild diarrhea to even a constipation as is so frequently the case.

Symptomatology naturally is quite variable or at least the onset is insidious and lassitude, anorexia, weakness, coated tongue, dull headache and flatulence after eating may be the only complaints. Abdominal colic or even low abdominal pain, frequently more marked in the right iliac fossa may first bring the patient to his physician.

Physical findings in these milder cases are a gradual loss of weight, weak pulse, slight temperature, sallow skin, abdominal distention, especially in right iliac region or over descending colon and tenderness over cecum, appendix or descending colon. Laboratory findings show secondary anæmia, mild leucocytosis in the blood count and frequently no change in the differential count.

Symptoms and physical findings in the more severe cases are those mentioned above and in addition colicky pains, alternating diarrhea and constipation and frequently a picture simulating a chronic appendicitis.

The above findings must be augmented by the demonstration of the Endamœba histolytica in the stools, or as has been so aptly said the diagnosis is made by an expert eye and a good microscope. Other diagnostic methods are frequently an aid and occasionally a necessity such as a proctoscope and an X-Ray of the gastro-intestinal tract. More recently the work of Craig has given us the complement fixation test which is of great value but cannot be used alone as a diagnostic measure. To summarize we should say that the diagnosis depends upon the demonstration of the parasite in the stool and realize that differentiation of the type of amœba is necessary either by the direct microscopical examination of the stained or unstained preparation, the culture, the concentration method or the complement fixation method.

Differential diagnosis is now realized as a most important phase in the recent work because so many cases in our recent outbreak have terminated disastrously due to a mistaken diagnosis. This is by no means an easy undertaking and especially in the early days of the outbreak when amœbiasis was thought to be rather uncommon. Such diagnoses as appendicitis, colitis, carcinoma, bacillary dysentery and intestinal tuberculosis were confused with the prevailing outbreak. Probably as much neglected as any other step is a more frequent examination of stools. It is rather surprising the number of

parasitic disturbance that can be found and frequently responsible for the patient's condition.

Thus far we have only mentioned the prophylactic treatment and we want to give a more detailed thought to the importance of this work. In our civilization it is a reflection that such an outbreak should occur but we are too prone to become careless and because of this we periodically have outbreaks that bring us back to a more thorough way of preventing the spread of infection.

Wenyon and O'Connor after elaborate studies about the dissemination of amoebiasis, summarized their work as follows:

(1) Destruction of the organism within the host, before encystment occurs
(2) Destruction of the organisms and especially the cysts following evacuation
(3) Prevention of contamination of soil by cysts
(4) Safeguarding all possible sources of infection from contact with flies and other insects.

If unable to carry out the above prophylactic measures then

(1) Disinfection and sanitary disposal of feces in infected localities
(2) Safeguarding water supply, as well as boiling water and milk
(3) Avoid raw fruits and vegetables
(4) Destruction of flies and other insects and screening all homes.

With the more widespread infection following the last outbreak it is going to be more necessary for us all to be cognizant of all prophylactic measures.

To a large extent the question of prophylaxis will be more vital in our larger centers where water supply, sewerage disposal and food handling is always of concern. With our natural growth the larger water supplies are becoming more and more contaminated with sewerage and just recently in Louisville this is a question that is receiving serious consideration as it is recognized that the entire Ohio water shed is faced with a very serious problem.

Not only have diagnostic improvements occurred in recent years but also in the management of the cases has marked progress been evident.

In former years Ipecac in some form has been recognized as our principal treatment and even today for our dysentery symptoms emetine is one of our most valuable agents. But as a treatment for chronic cases and especially carriers it is effective in a very small per cent and should not be used for such cases.

Even in the dysenteric group where all symptoms disappear following thorough emetine course a large per cent will show cysts present after several weeks. Craig states that as high as 85 per cent continue to show cysts after emetine alone.

The usual course of treatment with emetine in this country has been 1 grain doses of the hydrochloride subcutaneously daily for 12 days. Occasionally this course can be repeated with benefit. Formerly this was followed by the oral administration of emetine bismuth iodide given as enteric coated tablets three times daily for 7 to 10 days. In a fair percentage of cases such treatment seems to be satisfactory but occasionally there is a complete intolerance to this drug by mouth and with the newer agents at our disposal we seldom use emetine orally. In an experience of several years in Japan and Korea the above treatment was used with fair results and a disappearance of symptoms in practically all cases but about 15 to 25 per cent of cases showed cysts present and of course were not cured. During this experience in the Orient I never saw any toxic results from emetine as is mentioned so often in the literature of our country.

However this effect does occur from emetine occasionally and we should be alert to this possibility. It has been demonstrated that

(1) Emetine depresses and may paralyze the heart
(2) It is a powerful gastro-intestinal irritant.
(3) It causes a definite derangement of metabolism resulting in increased nitrogen loss and acidosis
(4) It may cause a mild peripheral neuritis.

Early authorities who at first were ardent enthusiasts over the use of emetine-bismuth-iodide in conjunction with emetine hydrochloride, soon realized that other agents were necessary to secure cures in all cases and quinine was used early as a rectal irrigation. In a short time Neo-Arsphenamine was used intravenously and the percentage of complete recoveries was increased. This later agent seems to work pleasantly in conjunction with the emetine treatment but seems valueless when used alone, according to Tuttle.

This work opened the way to the use of organic arsenical compounds and as a result we have stovarsal, acetarsone and treparsol, all of which may be used orally and about which many are enthusiastic. However there

is frequently an intolerance found to these agents and although they save time and money to the patient we can not overlook the possible toxic effects.

Stovarsal, first advocated about 1923 by Mardeoux of Pasteur Institute, has been rather popular since that time in all cases of amœbiasis. His series of 61 shows cures in all but 2 cases. He advocates the use of 12 grains daily for 7 days with a rest period of 7 days between courses. A majority are cured by the first course and 3 or 4 courses suffice for all cases. Those that recur after this number of courses do not seem to be benefited by further use of this drug.

Brown of Rochester is just as favorable in his reports on treparsol using 1 tablet (0.25 gm.) orally with each meal for 4 days and repeating in two or more such courses with a 10 day interval between. He thinks those cases that are toxic to arsenic do better on Yatren or Vioform using the former in 3 gm. doses daily for 10 days and repeating after 1 week's rest, or in the case of Vioform using 0.75 gm. daily in the same manner.

Craig summarizes his treatment as follows regarding the drugs used after the emetine course. "Of these, chiniofon has proven most successful but carbasone, triparsol and vioform have proven to be most valuable in curing infections with E. Histolytica. Acetarsone, I no longer use as it has proven too toxic while both carbasone and treparsol are as efficient and less toxic. Any of these drugs if properly administered will cure the vast majority of cases, the only exception being long continued cases of the chronic type, in which the prognosis as to cure is exceedingly poor."

At the Mayo Clinic their course of treatment is as follows: Emetine 2-3 to 1 grain hypodermically twice daily for 3 days and during the same time treparsol in 0.25 gm. doses after each meal for 4 days. The two courses are repeated after 1 week's rest and a third course of treparsol alone after another week.

Yatren, a German product (iodide-oxyquinolin-sulphonic acid) is used by many because of the multiplicity of methods in which it may be used, and because its use may be combined with other substances to an apparent advantage, especially Emetine Bismuth Iodilla. Willoughby and Aslett advocate the following routine: At 8 A. M. a cleansing enema of 1 pint of Soda Bicarb followed in 1 hour by 10 ounces of a 2½% solution of Yatren to be retained as long as possible (usually 5-8 hours.) This to be given with the patient lying on his right side. This is done daily for 10 days and in conjunction Emetine Bismuth Iodide is taken by mouth as can be tolerated by the patient, preferably 3 grains daily. In our own work we have used Emetine hydrochloride in 1 grain doses daily for 10 days, following this by chionofon in 4 grain doses after each meal for 4 days. In all but 1 of our cases this resulted in cure after careful study of the stools for 3 months time. A repetition of the above course cleared this case and we have felt that it was effective for even those cases of long standing. There was no evidence of toxicity in any of these cases.

So much for the handling of the cases of Amœbiasis, but for the cases of carriers we feel that the best results have been secured from the use of stovarsol.

To summarize, we should remember to be on the outlook for this infection which may be so insiduous in its manifestations. Institute a satisfactory course of treatment and urge a long enough observation to be sure our cases are cured.

DISCUSSION

Morris Flexner, Louisville: I am glad that Dr. Stites used the word amebiasis rather than the old term to which most of us are accustomed—Amoebic dysentery. Since the recent Chicago epidemic we feel that the disease may present itself in so many other ways than that of dysentery that the old terminology is no longer applicable.

Bundesen's report as to the real cause of the Chicago epidemic caused a great stir in the medical world. The idea that the drinking water of a first-class hotel could be contaminated by sewage was a new one. I feel that some of the unusual clinical pictures presented by this epidemic could be explained on the basis of gross infection. Few cases were seen up to this time in which the patient received as large an infecting dose as they did in this epidemic. The type of intestinal lesions, particularly the doughy cecums were a new finding. Runyan in 1925 associated with James in Panama had referred to these cases as those of "infiltration."

The essayist has taken up the question of diagnosis very thoroughly and there are only one or two things I wish to emphasize. The stools of course should be fresh and if possible passed in the office of the examiner. It is true amoebic cysts may be found in old, cold stools, but the active forms are much easier to recognize.

The x-ray has been of tremendous help in the recent epidemic. The most characteristic changes were found about the cecum and have frequently been referred to as "pinched." They could be differentiated from ordinary colitis and cecal irritability at times associated with

appendicitis. The greatest errors were made in diagnosing some of the amoebic conditions as carcinoma and I think the surgeons as well as the internists learned a great lesson in these cases.

The essayist referred to his Chinese experience. Dunn who nas worked in Shanghai and done considerable work on this subject says that he always treats every case of chronic appendicitis as one of amebiasis and if the patient does not improve refers him to surgery. Proctoscopic examination with its characteristic findings at times is a great help and specimens obtained by this method may make the diagnosis quickly. Craig's complement fixation test is expensive and in the hands of some workers has nat been particularly valuable. In our own hospital we have been a little disappointed with our results in cultures. Cleveland and Collier's reports had encouraged us a little too much.

There is nothing that I can add in regard to treatment. Every person has his own pet way of handling these cases. I usually use Emetin at first, particularly if the patient has pain and diarrhoea, then one of the arsenicals, ending with Yatren or one of its derivatives. Dr. Smithies in the American Journal of Nutritional Diseases has recently written an excellent article on the subject of this disease and poked fun at the profession for accepting all these newer drugs when the older forms of treatment have been so satisfactory. The reading of this editorial is well worth one's time.

Hyperparathyroidism and Angiospastic Syndromes.—Bastai and Dogliotti report five cases of partial parathyroidectomy for endarteritis obliterans (Buerger's disease). The following results occurred: (1) lowering of blood calcium more or less and approaching normal values; (2) immediate cessation of pains, even when intense and of long duration; (3) subjective and objective increase in the local temperature of the affected parts and increased sweating, (4) rapid healing of wounds that had resisted all types of earlier treatment, and (5) in cases in which hypertension existed, a lowering of the arterial pressure. They believe that in a normal person the calcium-phosphorus ratio and the other elements of similar action are in perfect relationship. Thus the vacomotor action may be regulated according to the functional requirements of the organs by the simple supply of sufficient blood. In disease, however, an excess of calcium ions may cause an increase in contractility and of the angiospastic state with all its consequences. It is on correcting this factor that parathyroidectomy exerts a favorable action on endarteritis.

THE SIGNIFICANCE OF THE HEMOLYTIC STREPTOCOCCUS FOUND IN THROAT CULTURES*

G. Bedford Brown, M. D.

Lexington.

Certainly there is no invader of living tissue that demands more respect from the medical profession than the streptococcus. Several explanations may be given for the bolshevic tendencies of this parasitic germ. The widespread prevalence in which it is found in the body; the insidious nature of the toxin; the multiplicity of the strains produced; the ability to acquire a sudden unsuspected virulence and the resistance it offers to medical and surgical skill are known and appreciated by the profession at large.

It challenges the entire speciality field from the dermatologist to the gastro-enterologist and the serologist to the oral surgeon. It is a boon to the osteopath and a godsend to the chiropractor until the patient requires the services of a trained physician. Perhaps it may select for its piece-de-resistance that portion of the anatomy usually claimed by the general practitioner and the laryngologist. The practitioner, because he treats both minor and major diseases and is often the first and last to treat infections of this kind. The laryngologist certainly gets his share of the upper respiratory infections and his field includes a very important abode of the streptococci, which may be on the way into the blood stream; namely the tonsils, adenoids, sinuses and purulent ears.

Streptococci have been noticed since the earliest days of bacteriology in the pus found during suppurative inflammation, but their constant presence and pathological significance were first strongly emphasized by the work of Ogston (1881) Fehleisen (1882) and Rosenbach (1884). The variety of pathologic conditions has caused constant doubt as to whether the various varieties are due to one or several species. Cultures of streptococci from erysipelas were long kept separate from those of various suppurative processes i. e. streptococcus pyogenes.

The cells are round, usually exist in short or long chains and on division divide in one plane so that they may retain their chain-like appearance. They are non-mobile and gram positive. The length of the chains are supposed to be in proportion to their virulency and certainly the fresher cultures do show longer chains.

Differentiation of the hemolytic from the ordinary varieties is accomplished by means

*Presidential Address before Fayette County Medical Society, March 1934.

of blood-agar plates made by adding 1 cc of defibrinated or fresh blood to 6 cc agar. After incubation for twelve to twenty-four hours the small colonies appear surrounded by a clear zone which is due to hemolytic action. Colonies are preserved, usually with some difficulty, in horse serum diluted with broth and grow best at a low temperature (8-10°). Chocolate ager has recently been used for differentiating hemolytic strains.

This study was instigated because of the large numbers of hemolytic positive throat cultures which have been reported recently in the hospital services and in private practice. In the winter of 1932 Dr. Jones of the Kentucky state laboratory quarantined a local institution and insisted that every throat that cultured positive for hemolytic streptococcus should be isolated and treated as scarlet fever, to be released only on obtaining a negative culture.

Cognizant of the fact that scarlet can be produced experimentally according to the work of Drs. Dick and Dick, Tunnicliff, Toyoda and Dochez, I felt that hemolytic streptococcus were certainly too prevalent for an ordinary laboratory to differentiate by bacteriological methods alone the germs that were responsible for this disease. It is true that a number of strains of this disease have been classified and given an individuality of their own. Thus the scarlatinal streptococcus has been definitely separated from pyogenic streptococcus, erysipelas streptococcus, puerperal streptococcus and the streptococcus obtained from normal throats. Toyoda, Kirkbride, Wheeler and others have shown that strains from scarlet fever vary widely in their cultural, bi-chemical and serological reactions yet none of these tests could show the difference between carriers and active cases nor could they determine their pathogenicity for humans. Fifty to sixty per cent of scarlet patients were found carriers at the end of thirty days Three to four cultures were necessary to find the organism in some cases.

The virulence of different strains of streptococci varies widely but the factors upon which virulence depends have not been proven. Virulence for one species may be greatly exalted by animal passage; at the same time virulence for another species may be diminished. Thus we know that a streptococci infection from a fresh wound is much more dangerous than from similar saprophytes upon the skin or mucous membranes. As a rule growth within the animal body enhances the virulence of a microbe for that species and this seems to be particularly true for the streptococcus associated with various blood poisoning conditions. It is difficult to produce powerful specific toxins from old cultures of once virulent organisms but upon transplant they may become activated to their former or even higher degree of virulence and consequent toxicity.

As long ago as 1843 Oliver Wendell Holmes published in the New England Quarterly Journal of Medicine and Surgery an essay on the contagiousness of puerperal fever in which he marshals a surprising array of cases of this disease that were evidently carried to the mother by the attending physician and nurse. Some years later, 1861, Semmelweis showed clearly that puerperal infection could be greatly reduced by cleanliness. Fehleisen in 1882 discovered that the streptococcus produed erysipelas, although the disease had been described by Hippocrates. Rousseau described the relationship between puerperal infection and erysipelas in the newborn. Spenser and Kraus proved that ten lying-in women developed puerperal fever by erysipelas or pyogenic streptococcus transmitted by the hands of doctors and midwives, but it remained for Tunnicliff in 1920 to show that Streptococcus erysipelatis, of the hemolytic streptococci group, was the causative organism. Maer, 1899, isolated over thirty different strains of streptococcus grown from blood taken from fatal cases of scarlet fever. These belong to a distinct biological group known as "B Hemolytic." Dick and Dick have been able to reproduce the disease in humans by inoculation with this type of organism. Toxins obtained from throat cultures or positive throats of scarlet fever patients have been neutralized by convalescent serum.

During the last decade much argument has arisen as to whether the hemolytic streptococcus is acceptable epidemiologically as the etiological agent of scarlet fever. Several Japanese have corroborated American investigators by studying large numbers of patients in the twenty-two hospitals of the S. Manchurian Railway Co. From 1921-1927 two thousand two hundred sixty-four cases of scarlet and nine hundred forty-two of erysipelas were observed by Toyoda while Kuroi cultured 1,559 healthy people to find from 4.2 per cent to 8.1 per cent positive cultures among families where a scarlet epidemic is present. There were a large number of negative Dick tests among the Chinese with a higher evidence of erysipelas than Scarlet. Females were more susceptible to the latter while males were prone to erysipelas. Three to six years is the susceptible scarlet age and erysipelas is more common in infants under one year and in older adults. Scarlet fever is

more prevalent durng cold months and cases are more severe at this season. Scarlatinal streptococcus can stand cold better than heat; dry weather better than wet and darkness better than daylight. In Africa, India and North America the colored people show a far lower morbidity rate than the whites.

While non-scarlet fever streptococci can produce Dick toxin, the scarlet fever or B variety are found to have the strongest power to produce the toxin. Erysipelas streptococcus is the nearest approach to scarlet streptococcus as far as production of Dick toxin is concerned. Scarlet has produced toxin after 3-4 subcultures of hemolytic streptococcus. Only a few colonies of the virulent varieties were found in cases that do not have scarlet. Sometimes 3-4 cultures are necessary and hemolytic streptococcus may be found on one side of a tonsil and not on another.

Typical B streptococcus were found in only a few cases of apparently healthy individuals and the clinical signs varied from hyperemia and swelling to slight hyperemia and sore throat. Sixty per cent of Toyoda's cases, with ten strains of the typical B type, produced Dick toxin. This leads us to believe that the streptococcus ordinarily found in healthy throats cannot always be considered the same as streptococcus hemolytic scarlatinae.

The B type is always found one hundred per cent in scarlet throats and decreases by degrees during the course of the disease. There are never any return cases of scarlet from contacts with discharged hospital cases, who have been sent home with a negative culture. Returns from cases who have not received a negative culture and who have had the B type vary accordingly to different investigators but certain it is that virulent germs will cause otherwise negative throats to become numerous, which usually indicates the production of Dick toxin.

Some English investigators recommend that a woman who is a positive Dick reactor be immunized to prevent puerperal sepsis after parturition. It is also shown that the new-born produce a Schultz-Charlton phenomena which indicates an early immunity against the disease. This immunity may disappear within the course of a few months.

An original American investigator proves that cultures from throats of scarlet, erysipelas and septic sore throat after frequent transplanting after injection into mice may remain stable for years. A few strains will dissociate but most of them will revert to the original streptococcus under proper conditions.

The amount of literature on this subject is voluminous. Some idea may be gained of the amount when we read the article of David and Robert Thompson, which shows the result of a review of more than 1,400 papers on the subject of "the role of streptococci in scarlet fever." Fifteen points are given to bolster the conclusion that the toxin of the B streptococcus scarlatinae is the cause of scarlet. They are as follows: differences in cultural reactions: fermentation reaction peculiar to scarlatinal streptococcus; specific agglutination phenomenon: suggestive and descriptive reaction of opsonic index: specificity of precipitin test: specificity of toxin: the type and production of rash: the Schultz-Charlton phenomenon: the beneficial therapeutic action of the anti-toxin: the actual passive immunity of contacts: the active immunization of susceptible persons by the injection of toxin: the production of experimental scarlet fever, etc.

We can say that the principle factors necessary for the production of scarlet are (1) Hemolytic streptococci possessing the capacity of producing Dick toxin. (2) Sufficient amount of virulence on the part of the streptococcus. (3) A person of a constitution highly susceptible and suited to the propagation of hemolytic streptococci.

I have gone into some detail on this question of scarlet because I felt you would be interested in the latest work on this subject and also to show how highly technical the subject has become. For anyone to say that a streptococci germ found in the throat means scarlet fever would be as fallacious as saying a pneumococcus would mean pneumonia. It is obviously unnecessary and inadvisable to discuss scarlet fever clinically, but it would offer some academic interest to review briefly the other diseases that we feel are caused by this throat invader.

It has been found from an examination of the heart's blood of cadavers that in about one-third of all fatal diseases streptococci invade the blood before death, and in these cases they perhaps aid more or less in facilitating a fatal termination. In addition to their conspicuous role as initiators of very diverse pathologic conditions streptococci are present in "mixed infections" and "secondary infections" more often than any other microbes: that is to say they have a tendency to follow in the wake of and act as accomplices to other pathogenic organisms. This is particularly true of infections of the throat, para nasal sinuses and ears. The mucous membranes constitute a favorable abiding place for these germs; the tonsils almost always harbor them. Consequently any lowering of the normal resistance of these tissues from either local or general causes

gives the signal for a general invasion. In throat affections of all sorts, streptococci are usually present and in some cases, notably in diphtheria, measles and in the anginas of scarlatina, as we have noted, the part played by these organisms is highly important. Typical diphtheria is so generally accompanied by a multiplication of throat streptococci that at one time these micro-organisms were regarded as the cause of diphtheria. When there is a false membrane, the presence of streptococci in the throat seems to exalt the virulence of the diphtheria bacillus. In fact it seems that the majority of non-diphtheritic anginas are due directly to this infection. During the influenza epidemic of 1917-1918 they were constantly cultivated from the throats of mild and seriously ill patients and the fatal termination of many of these cases is believed due to the toxins of streptococcic origin. At autopsy they were cultured from the lung in numerous and extremely virulent colonies.

Cases of enteritis in infants and occasionally in adults, which is frequently spoken of as "intestinal flu," has been attributed to streptococci.

Septic sore throat which occurs in sporadic out-breaks is undoubtedly due to this germ carried in milk and contaminated by the teet-ulceration of the cow or by streptococcic carriers. This type of disease has almost entirely disappeared at present due to the rigid inspection and pasteurization of milk. Ice cream has been known to harbor these germs for three weeks without diminution either in number or virulence. The attack is explosive in character and several in the family are usually infected, but children escape more often than adults, while infants are almost free from the infection. More than fifty per cent occurs in adults between 16-45 with two-thirds of the deaths over 55. Females are more often affected than males because they drink more milk and natural or hereditary immunity accounts for the low infant mortality. Peritonitis where there is no evidence of appendicitis or intestinal ulceration appears at autopsy during many of the epidemics. Complications are the rule and are comparable to many other of the hemolytic streptococcus diseases. Tonsilitis, erysipelas, otitis media, broncho pneumonia, arthritis, pleurisy, nephritis, and endocarditis are the commoner. As blood cultures are positive in severe cases, foci or a nitus of the germs may account for arthritis, osteomyelitis, rheumatism, and endocarditis. Complications from a resulting otitis media are mastoiditis, septicemia, sinus thrombosis, meningitis and extra or intra dural abscess.

Pilot and Rosenbloom (1932) showed that nine out of one hundred and two children with sore throat yielded streptococcus epidemicus. This type of sore throat is sporadic and not related to the milk supply. The clinical picture of the patients with tonsilitis due to streptococcus epidemicus is similar at the onset to that of patients with ordinary hemolytic streptococcus infections but complications and sequelae were more common in the former. In my opinion this type accounts for many of our outbreaks of colds and upper respiratory infections such as the cases of the past winter in Lexington.

Other types of streptococcic diseases such as those that attack the body surfaces may or may not belong to the saprophytic variety. Erysipelas, impetigo contagiosa, erysipelas of the new-born, (such as attacks the cord and may invade the liver and peritoneum) suppurative abscesses, puerperal fever, wound or abrasion infections and all kinds of contaminations naturally do not belong to this discussion.

In conclusion I would like to mention a few of the diseases that can be directly or indirectly due to the streptococcus. Many of these are metastatic, such as ulcerative endocarditis or myocarditis, rheumatic fever or acute articular rheumatism, acute and chronic types of nephritis, streptococcic menigitis, liver abscess and in short any tissue that contains circulating blood is not immune to a deposit of virulent streptococci, and may offer a convenient harbor. Furthermore these nests may themselves become foci from which other organs are infected even after the original focus is removed.

Finally it is well to keep in mind that many of the terminal diseases are due to this germ; the coup-de-grace in many prolonged constitutional diseases such as diabetes, tuberculosis and the wasting disease of cancer. In these diseases the streptococci can be isolated from the internal organs in a large percentage of the fatal cases and in many instances can be isolated from the blood during life. As has already been said streptococci have been found in about one-third of the fatal cases in the blood of cadavers. It is surely true that if routine blood cultures were made in all of our seriously ill patients we would have much more cause for alarm and in a large majority of these our first evidence of infection would be found in a positive throat culture.

INTERNAL HEMORRHOIDS; TREATMENT BY NON-SURGICAL METHODS*

Rufus C. Alley, M. D.

Lexington

Since the dawn of civilization mankind has possessed an inherent fear of surgical procedures. Excruciating pain was the lot of the unfortunate upon whom necessity forced a surgical operation in the preanesthetic era; nature's anesthesia of syncopal unconsciousness was probably a welcome relief. The physical pain was hardly less terrible than the mental anguish of anticipating probable death.

Even in more recent times with the advantages of modern anesthesia and with highly developed surgical technique all of the distress following surgical operations has not been eliminated. This is true of rectal operations in general and of hemorrhoid operations in particular.

When we pause to analyze the situation there is little wonder why the average patient becomes unduly disturbed when anticipating a hemorrhoid operation. It has been widely disseminated that much pain always follows such an operation. Unfortunately this is too often true, but not surprising when we recognize the wild abandon with which many otherwise capable surgeons do this type of work. A clean hemorrhoidectomy done with due regard for sensory structures should be followed by no more pain than follows a clean, well done tonsillectomy.

Even if pain and discomfort are not considered, there are other reasons why hemorrhoidectomy may not be desirable. For economic reasons the patient may ill afford the loss of time necessary for hospitalization. The debilitated patient who, because of organic disease, is a poor surgical risk is particularly grateful for relief without operation. For the patient who has a morbid fear of operation it is usually inadvisable to insist that surgery of an elective nature be done and here nonsurgical treatment is accepted with enthusiasm. And finally, the rural physician who does not have adequate hospital facilities conveniently at hand can often employ nonsurgical methods with great benefit to the patient and satisfaction to himself.

HISTORICAL

Nonsurgical treatment of hemorrhoids has undoubtedly been practiced since the dark ages. Ointments and emoluments as well as charmed potions and witchery have had their psychologic, if not curative, effects. Surgical treatment in the form of simple ligation of prolapsed internal hemorrhoids is of respectable antiquity but methods for radical cure without operation have been available for a comparatively short time. A young physician named Mitchell of Clinton, Illinois, in 1871, began the use of carbolic acid injections for the cure of internal hemorrhoids and obtained some excellent results. Unfortunately, this enterprising young doctor was blinded by the commercial possibilities of his discovery and exploited it to the extreme. In this way his secret formula and methods fell into the hands of quacks and itinerant charlatans and, in fact, any other who was willing to pay his price under promise of secrecy. In a short time the country was deluged with ignorant and irresponsible "pile doctors" who claimed to have discovered a miraculous cure for piles in which no cutting was done and which was absolutely painless. Even when used in such an unscientific manner and under such adverse circumstances, the results obtained by these quacks were often wonderful and the regular profession was forced to realize that many patients were being treated and cured by this method.

Collier F. Martin in 1904, presented an excellent review of the material then available and described a standardized technique by which uniformly good results could be expected. This was in opposition to the views of the Allinghams in 1896, and of Mathews in 1903, who discussed and condemned this method. Tuttle in his book in 1907 devoted several pages to discussion of complications and dangers incident to the injection treatment but admitted its value when properly employed in carefully selected cases.

In 1916 E. H. Terrell showed that a solution of quinine and urea hydrochloride in strength of five to ten per cent is a safe and effective injection for the obliteration of internal hemorrhoids. This solution has gained wide popularity among those who treat rectal diseases.

ETIOLOGIC AND PATHOLOGIC FACTORS

The factors involved in the development of internal hemorrhoids are many and complex. For this reason many explanations of their formation have been offered, none of which apparently apply to all cases.

The upright posture with its consequent back pressure in the valveless portal system; forceful straining at stool; portal congestion; trauma produced by extrusion of dehydrated scybola; the purging effect of irritant cathartics or severe diarrhea; obstruction in

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the hemorrhoidal veins from external pressure by fibroid or pregnant uterus; senile atrophy and lessened perivascular support;—all of these contributing factors, and others, have been used to explain hemorrhoidal formation. But the fact that many individuals are subjected to one or more of these conditions and yet do not develop hemorrhoids is sufficient proof that other influences are necessary. However, it is an undoubted fact that these conditions are often associated with hemorrhoids and probably aggravate the disease.

The careful histologic studies described by Buie lend weight to his opinion that chronic infection is the underlying cause of hemorrhoids. My own observations are entirely in accord with this view; careful histopathologic examination always shows inflammatory changes. It also seems probable that a congenital architectural defect may be an additional underlying factor.

The typical microscopic picture of internal hemorrhoids shows diffuse degenerative changes in the walls of dilated venules with chronic productive inflammatory changes in the interstitial connective tissue. The mucosa is often granular and thinner than normal but some times it is thickened, especially in chronic cases of long standing. Areas of thrombosis are frequent.

INCIDENCE OF HEMORRHOIDS

Hemorrhoids constitute one of the most frequent of all pathologic conditions seen in man. Bodenhamer said, "Few individuals attain the meridian of life who have in the interval remained entirely exempt from it." In 46,879 cases of rectal disease studied by Pennington 16,869, or 36 per cent, were afflicted with hemorrhoids. In a survey of 3700 cases of rectal disease in private practice, F. C. Smith found hemorrhoids to be present in 55 per cent, although in many instances the patients had sought advice for other rectal disorders.

During the Civil War, according to Otis, 1598 soldiers were discharged for disability from this cause from a force of 531,920 (0.3 per cent). Collins reports in his statistical studies of causes of illness in 9,000 families, representing 39,185 individuals, 111 cases of hemorrhoids (.29 per cent) of severity sufficient to produce one or more days of disability.

In the series studied by Smith males were affected about twice as frequently as females; this is in general accord with the observation of others.

Hemorrhoidal disease is conspicuously absent in young children; during adolescence it is rare. More than 65 per cent of patients are between the ages of 30 and 60.

TYPES OF NONCUTTING TREATMENT

The object of nonsurgical treatment of hemorrhoids may be palliation or radical cure. At times it is desirable to employ palliative measures to relieve congestion, edema and inflammation before instituting curative procedures.

PALLIATIVE TREATMENT

Attention has already been directed to the fact that internal hemorrhoids are always the seat of inflammatory changes. While this inflammation is usually of a chronic nature it not infrequently becomes more active and assumes subacute or even acute proportions. It is this activity of dormant infection that is responsible for many complications that sometimes develop. It may be responsible for the pain, soreness, or sense of discomfort that are otherwise unexplainable. Occasionally it progresses to the point of producing massive phlebitis and thrombosis of the hemorrhoidal veins.

When this acute or subacute inflammatory condition exists, it is often desirable to postpone curative measures until the active process has subsided and the quiescent stage is again reached. To attain this, three agencies are useful:

1. Physiologic rest (relative) obtained by the use of smooth diet supplemented with adequate dosage of liquid petrolatum to produce soft, well lubricated and easily voided stools.

2. Local heat applied as hot compresses, hot Sitz baths, hot irrigations, or in the form of medical diathermy.

3. Topical applications of antiseptics either in solution or in suppositories.

The use of these agencies will, within a few days usually, bring about noticeable relief; indeed, some patients get so much relief that they stop treatment altogether.

CURATIVE TREATMENT

The injection of sclerosing solutions into the perivascular substance of the pile is the method which has always enjoyed the greatest popularity as a nonsurgical cure for hemorrhoids. This method has been rescued from the field of quackery and put upon a legitimate scientific basis.

Histologic study of injected hemorrhoids shows that within twenty - four hours a rather intense inflammatory reaction has developed with the outpouring of fibrous exudate into the connective tissue stroma. Chemical phlebitis and thrombosis are usual. This sterile inflammation subsides and is followed by organization of the exudate and shrinkage

incident to the resulting fibrosis. After an interval of a few weeks the varicose tumor has contracted to a thin fibrous mass firmly attached to the rectal wall. This is the reaction sought for but it must be remembered that indiscreet use of quantities too large or solutions too strong may produce undesirable results such as sloughing and abscess formation.

The solutions commonly used are phenol in a vegetable oil, or glycerine, in strength of 5 per cent to 15 per cent, and 5 per cent aqueous solution of quinine and urea hydrochloride. Recently sodium morrhuate in 3 per cent to 5 per cent solution has been used with success. Hanes reports good results following the injection of diluted hydrochloric acid. It seems to make little difference which solution is used as long as it is used properly.

Electrical treatment in the form of negative galvanism has been used extensively in some localities. Like the injection treatment, it has been transposed from the field of unethical commercialism to one of credit and scientific precision. According to Droste the "electrolysis causes inflammation of the hemorrhoid and surrounding tissue. This subsides in twenty-four hours, leaving a hard, semispherical or semi-ovoid tumor, due to fibrosis. This anchors the mucosa to the tissue below. In from ten to fourteen days it softens and gradually disappears so that, within a month or two, it is usually difficult or impossible to demonstrate site of treatment.

Surgical diathermy or electrocoagulation depends upon the generation of sufficient heat within the substance of the hemorrhoid to coagulate the tissue proteins. This is obtained by the use of a high frequency biterminal current of the d'Arsonval type. Considerable skill and experience are necessary for the proper use of this method and it is not recommended for general use. Massive sloughing and possibly incontinence may follow indiscriminate electrocoagulation.

Another procedure of definite but limited usefulness, is the simple puncture of the hemorrhoid with the galvanocautery. This produces a circumscribed area of thermal coagulation, a slough, the size of which depends upon the total amount of heat absorbed, and subsequent fibrosis and obliteration of nearby blood vessels. This is usually effective for small isolated hemorrhoids but not for the more extensive ones.

SELECTION OF CASES

It must be remembered that a great deal of rectal distress is produced by conditions other than hemorrhoids, even though the latter may be coexistent. Internal hemorrhoids are always situated above the anorectal line and are covered with rectal mucous membrane. This area is above the sensitive anal canal and for this reason uncomplicated internal hemorrhoids are not painful. When pain and anal spasm are present irritating lesions of the anal canal are responsible. When these conditions exist, cure of intestinal hemorrhoids will not relieve the patient. For this reason accurate diagnosis is essential. The nonsurgical treatment of hemorrhoids is satisfactory only in uncomplicated cases or in those cases in which the complicating factors can be removed without operation.

TECHNIC OF INJECTION

A thorough knowledge of anorectal anatomy is essential for the satisfactory treatment of hemorrhoids. The procedure itself is easy when carried out properly, but the price of ignorance or carelessness is almost always much pain and distress for the patient and anxiety and remorse for the physician.

The left lateral position is comfortable for the patient and convenient for the operator. For exposure of the hemorrhoids a tubular type of speculum is most satisfactory. Bivalve specula give satisfactory exposure but they always produce pain in the absence of anesthesia. I prefer and use routinely the Collier F. Martin anoscope, but other tubular specula, such as the Brinkerhoff or Hirschman, are just as satisfactory if one is accustomed to using them.

The hemorrhoid selected for treatment, usually the largest one visible, is brought into full view and any particles of mucus or feces are wiped away with a cotton swab. A non-irritating antiseptic solution is then applied to the exposed surface and the injection is made as nearly as possible into the center of the pile, one cubic centimeter, or less, usually being sufficient. If the injection is too superficial, so as to produce a bleb, a slough may result; if it is too deep it will not be effective.

Ordinarily one hemorrhoid is treated at each sitting and treatments are given at intervals of three to seven days. More than one injection may be, and often is, necessary for each hemorrhoid, especially if it is a large one.

Great care must be exercised to be sure the injection is made in the submucous tissues *above* the anorectal line. If, by mistake, the solution is deposited beneath the sensitive anal skin, great pain and sloughing are sure to follow. A properly performed injection is practically painless and the patient may go about his business without interruption. About 10 per cent of my patients, af-

ter injection with quinine and urea hydrochloride solution, complain of a dull ache or perhaps just a sense of fullness in the rectal region. This discomfort usually begins thirty minutes to an hour after injection and wears off in twenty to thirty minutes. It has never caused serious complaint.

During the course of the treatment it is well to have the patient take especial care to avoid constipation. One ounce of liquid petrolatum daily supplemented with warm water enemata when necessary is usually sufficient. If troublesome constipation already exists it may be advisable to delay treatment long enough to get it under control.

TECHNIC OF ELECTROLYSIS WITH NEGATIVE GALVANISM

Droste has had a large experience with galvanic treatment over a period of nineteen years and I am indebted to him for the following description: "The patient is placed in the left lateral position and a wet pad attached to the positive pole of the generator, is placed under the left hip. The body weight aids in securing good contact, an advantage lost when the pad is placed over the abdomen.

"The internal hemorrhoid is exposed by a Brinkerhoff speculum and injected with 0.3 to 1 c.c. of an anesthetic solution. The electrode used is insulated excepting at its pointed end of which about one centimeter, or slightly less, is exposed. It is held in a slender holder about eight inches long, by a knurled chuck. To the upper end of this holder is attached the wire leading to the negative pole of the generator. The electrode is pushed into the hemorrhoid until the exposed portion is completely buried, the long axis of the electrode being held parallel to the long axis of the speculum. The current is then slowly turned on. When the patient notices a slight discomfort (tingling or burning) either in the rectum or on the hip, the strength of the current is slightly diminished. The electrode is now held in place from five to fifteen minutes, while the current gradually produces discoloration of the pile—at first grayish or purplish, progressing to black. This discoloration extends in all directions from the point of puncture and forms an areola somewhat over a centimeter in diameter. Thus, two or three applications may be required in a large internal hemorrhoid. This procedure is repeated on each hemorrhoid, the entire treatment lasting from thirty to forty minutes in the average case."

As with the injection methods one must studiously avoid the sensitive anal canal and limit the treatment strictly to the internal variety of hemorrhoids which are covered with rectal mucous membrane.

SAFETY

Nonsurgical treatment of hemorrhoids has been condemned by a few surgeons whose opinions must be respected. It is sometimes claimed that the method is not safe because of the likelihood of producing thrombosis and embolism. Infection with sloughing, abscess formation and even septicemia are said to be potent dangers.

The consensus of opinion among conservative proctologists does not seem to support these statements. Such men as Dudley Smith, Hirshman, F. C. Smith, Jones, Martin, Hibshman, Hermance, Rosser, Werner, and many others, use the injection treatment as an office procedure and consider it safe. Terrell has used the injection method in more than 5,000 cases and has not had a single serious complication. Droste considers treatment with negative galvanism also as absolutely safe. Occasional prejudicial statements that nonsurgical treatment is "unsurgical," "unethical," "unscientific," "charlatanic," etc., are dismissed without comment because they usually emanate from uninformed sources.

EFFICIENCY

Ineffectiveness and incomplete cures are perhaps the most frequent indictments against treatment by nonsurgical methods. Even the most optimistic user of injection or electrical methods will admit that occasionally a poor result will be seen; likewise the most radical exponent of surgical removal, if he follows his patients, will observe unsatisfactory results. Jones and Martin think about 15 per cent of their results with injections are unsatisfactory. Smith, Terrell, and others, think that if the patients for injection are selected with sufficient care no failures will be encountered. This means that the frankly complicated cases and many, or all, of those on the borderline should be eliminated if uniformly good results are to follow. Droste says that in his experience with negative galvanism less than 10 per cent of results are unsatisfactory from the standpoint of recurrence.

Considering the tremendous total experience with the accepted nonsurgical methods of treating internal hemorrhoids it seems logical to conclude that these methods, when properly employed, are both safe and effective.

DISCUSSION

Granville S. Hanes, Louisville: Dr. Alley has presented to this society a sound discussion of the essential facts pertaining to the non-surgical treatment of internal hemorrhoids. The

injection plan of dealing with these tumors will, without question, become more widely practiced as both the technique and agents that may be employed are better understood.

The essayist has stated that the injection method of relieving piles did not emanate from an orthodox source. It is also true that this plan of treatment was not revealed to the medical profession for some time. Since it is now well known that various agents may be employed successfully in relieving hemorrhoids by injection Dr. Alley can boldly assert his approval of such treatment without fear of criticism.

I admit there was a time when no one was more opposed to the injection of hemorrhoids than myself. This opposition was largely due to the literature I read on this subject and the influence of Dr. Matthews with whom I was associated for a number of years.

Of course, I knew nothing of the merits of this method of treating piles, nor did I entertain any kind of belief that it possessed any merit. The source of its condemnation was sufficient. This was an easy and popular course to pursue. For one to inject hemorrhoids in the early days placed him beyond the realm of authoritative support. No member of the American Proctologic Society at that time endorsed injection of hemorrhoids. It is just as true today as in earlier times that discoveries which are new, ideas that are different and perhaps in advance of the time suffer serious delay on account of malignant, ignorant, and unjust criticism until the crowd has had time to catch up.

Few have the nerve, honesty and grit to go against the popular current. Quotations from established sources bolster the waning courage and lend some tint of color to the pallid claims of the timid seeker after popular approval.

My prejudices were overcome when I observed the effect of injecting hydrochloric acid under the cutaneous surfaces around the rectal outlet and also under the rectal mucosa for the relief of pruritus ani. It did not occur to me that I was undermining by own opinions relative to the injection of fluids for the relief of hemorrhoids. When, however, patients who had been treated for pruritic conditions stated their hemorrhoids had been completely or partially relieved, then it was that my prejudices began to collapse. Especially was I convinced when patients were relieved after they were carefully investigated and found to have hemorrhoids before they were injected for pruritus.

After these experiences I began injecting hemorrhoids regardless of any pruritic complaint. I observed that the fluids when injected under the mucosa, especially in the presence of large internal hemorrhoids, passed out under the mucosa in any direction following the course of least resistance. To my astonishment the mucosa would be perceptibly lifted from its attachment as high up along the rectal wall as the finger could palpate.

It is, possibly, advisable for me to state here that our method of injecting internal hemorrhoids consists in introducing an infiltration needle into the rectal mucosa just above its junction with the internal anal tissues. We have also become convinced that the injection of sterile castor oil is the most reliable agent we have ever employed. It is really fascinating for one to allow the finger to remain in the rectum and feel the different directions in which the oil or fluids which are introduced pass along under the mucosa. I have inserted the infiltration needle into the sub-mucosa in the posterior right quadrant and could definitely feel the fluids pass around to the left side and even to the posterior left quadrant. As I have stated, the fluid may pass in any direction which indicates that it is traveling along the lines of least resistance. In some cases the quantities may be injected when there will be only a slight fulness or bogginess of the mucosa. Again distinct tumefaction of the mucosa may appear when only small amounts are introduced. This reaction is significant of the extent of the destruction of the connective tissue which binds the mucosa and sub-mucosa to the deeper structures.

Here again was an observation wholly without anticipation. The fact that the mucosa was lifted from its attachments to the deeper structures when the fluids were introduced under the mucous membrane led me to a new conception of the primary cause of internal hemorrhoids. It also aids in a logical explanation as to the manner in which injection of fluids under the mucosa relieves and cures prolapsing piles.

It is not difficult to understand how the mucosa and sub-mucosa would easily prolapse if there were straining when the attachments to the deeper structures were completely or partially destroyed. Straining at stool, lifting heavy objects, improper posture, etc. are not the primary causes of prolapsing hemorrhoids. These are secondary factors. If there was no interference with the normal attachments of the mucosa to the structures beneath straining would not produce hemorrhoids. How many times have we seen patients with a diarrhea or dysentery with straining beyond control and yet there is no prolapse of the rectal mucosa or hemorrhoids. In such instances the mucous membrane is made more secure in its attachments to the deeper structures because of the inflammation associated with this infection and cause of diarrhea.

The agents injected under the mucosa act as foreign substances and thus create a reaction which produces an inflammatory material which serves as connective tissue and thus supports the

parts in their relatively normal positions.

I have related repeatedly my experience in injecting hydrochloric acid for the relief of pruritus ani and vulvae. It was constantly found that the connective tissue under the skin was completely or partially destroyed. We have observed that the same conditions existed under the rectal mucosa which easily accounts for the production of prolapsing hemorrhoids. The destruction of the connective tissue is not only responsible for prolapsing hemorrhoids but for rectal prolapse. The same thing is true in eczema, psoriasis, and ordinary chronic skin lesions where no external source of skin irritation is present. The connective tissue in all these conditions both under the mucosa and under the skin is partially or completely destroyed.

There can be no doubt about there being some force or agents that serve to destroy the connective tissue in such types of pathology as I have described. It may be a low form of germ life, toxines, or both. There is something that affects connective tissue. In pruritus ani, internal hemorrhoids or eczema, when the infiltration needle is inserted under the mucosa or the skin the parts are lifted up in a manner similiar to that when a mole plows along under the surface of the ground. The elevation of the skin or mucosa can be seen or felt. If these potential cavities are well filled and the tumefaction becomes quite firm then the needle with the distal end in the distended cavity will allow the fluid to spurt out for several inches when the syringe is detached. No normal tissue can act in this way.

It is commonly believed that the injection of hemorrhoids is a very simple procedure. On the contrary it is a very intricate and difficult procedure if performed with utmost accuracy. The way in which the anal canal is dilated for the introduction of the needle, the various points of introduction, the amount of fluid injected, the selection of the proper agent to suit the individual case, the time for further injection, etc. are matters of no little consequence. Some patients tolerate fluids that are injected much better than others. All these features must be taken into consideration. In fact it is just as difficult to properly inject hemorrhoids as it is to operate.

The treatment the patient requires after injection has never been properly emphasized. Especially is this true if there are considerable quantities of fluid injected under the mucosa. Firm massage on the outside and massage with dilators on the inside is absolutely necessary to avoid complications. The way to cure large internal hemorrhoids is by the introduction of fluids under the mucosa, filling the potential cavities, which must be done to prevent further tendencies to prolapse. I employ the expression potential cavities because the two surfaces are not separated unless some agent intervenes. When the fluids are injected then the superficial surfaces are lifted from the deeper and more substantial ones.

It requires no mean knowledge and skill to successfully treat internal piles by injection of chemicals. In the hands of the best there will be complications. Infection, to a greater or less extent is constantly present in rectal tissues. In what part of the body do we find more universal trouble of some kind than in and around the rectum. Complications follow operations for hemorrhoids. We see tight, fibrous muscles, painful contractions, granulations, fissures, etc. No method is a hundred per cent.

The best doctor for the relief of hemorrhoids is he who is free from prejudices as to methods employed and is a master in the practice of all.

Carl H. Fortune, Lexington: I am not a proctologist, and my only excuse for discussing this paper is that like all engaged in medical practice I have been frequently confronted with the problem of rectal disease, and, further, I have had the opportunity to observe the non-surgical treatment of hemorrhoids in various of my patients.

I would first emphasize the importance of accurate diagnosis in rectal conditions by the internist and general practitioner.

It is well known that many patients are reluctant to tell the physician of rectal complaints, and information is often elicited only by the direct question.

It is also well recognized that certain obscure medical conditions may be due to or greatly aggravated by rectal disease. The connection between hemorrhoids and obstinate constipation is an example. Secondary anemia due to prolonged bleeding from hemorrhoids, while less common, is most serious.

Rectal examination should be a part of every complete physical examination, and some sort of a rectal speculum should be a part of every physician's equipment.

In those instances where non-surgical treatment of hemorrhoids is applicable it has been my experience that it is a most useful method. I have been particularly impressed with the fact that patients who have put off treatment because they feared operation readily agree to a series of office treatments. The fact that no period of disability is involved is of major importance to them. I am confident that a considerable number of patients whom I have referred for non-surgical treatment of hemorrhoids and who are now completely relieved would have refused to consider any operative procedure.

In those patients whom I have been able to follow since treatment, the results have seemed to me quite satisfactory. In the hands of one competent to select his cases properly and give

injections properly this method has proved a very desirable therapeutic agent.

William J. Martin, Jr., Louisville: Each time our friend Dr. Brady reveals to the panting proletariat the mysteries of the injection treatment of hemorrhoids, through the columns of the newspapers, he winds up with the remark that any good doctor can inject hemorrhoids. Granted that any good doctor can inject hemorrhoids, but not by instinct, like a cat can swim when you throw it into the water. The most important thing, to my mind, in the injection treatment of hemorrhoids is knowing when to do it, how to do it, and what to do it with. Any man who is an advocate of a cure-all in medicine, is a dangerous man. Adaptability of procedure to the case in hand makes for safe medicine.

There are many cases which are suitable for injection, and a large percentage which are not. The point I want to emphasize is to correctly diagnose and to know what you are treating before you start injection of hemorrhoids.

Just recently, and very frequently, I have seen cases, in my work as a proctologist, that have gone to someone, complaining of pain around the anal region, and have been injected, apparently with little or no examination. Pain around the anal region to the laity, and unfortunately to a large number of doctors, means "piles." Without any attempt at examination or observation they immediately agree with the patient and say, "Yes, you have piles," and either give them a suppository or an ointment to rub on, and let them go, or they inject something into the anal region. I have seen piles injected anywhere from an inch and a half outside the anal ring up to the first or second valve. Many men inject blindly with the finger as a guide, never looking inside.

The point that I want to bring out in connection with Dr. Alley's paper is that your diagnosis should be confirmed before you start to work. Uncomplicated hemorrhoids are not painful. When you get pain around the anal region you have complications. Diagnose your patients carefully, not by the finger alone, because I never saw a man yet that had eyes on the end of his fingers. Slip in a speculum and see what is there, and be sure before you inject that there is not some complication.

We heard a paper this morning by a man who, after doing general practice for a while, went off to a well recognized institution, not for a few weeks, but for months, and took up the work of proctology under a Proctologist, learned the business and came back to this part of the country and set himself up as a Proctologist. The day of the short course in anything is gone. Regardless of what anyone says, the day of the general practitioner, the man who was a know-all, cure-all and treat-all, is gone. The knowledge of medicine has outstripped any one man's ability. Let me reiterate that a cure-all in medicine is dangerous. Diagnose your cases and be sure that there are no complications. Uncomplicated, non-prolapsing internal hemorrhoids are the only kind that are suitable for injection. There is no use of injecting a case of internal hemorrhoids which has external hemorrhoids associated, because you are dealing with two separate systems of veins and injection of the superior hemorrhoidal veins will not thrombose the inferior hemorrhoidal veins which make up the external hemorrhoidal mass. The external hemorrhoids will remain and the patient will not be satisfied. Herbert Hayes in Houston, Texas, says that twenty-five per cent of his cases that he has treated return voluntarily for treatment either by surgical methods or further injection. The recurrences will further lower the percentage of cases which will receive a cure from injection, according to men who have investigated a large number of cases, so that from 75 to 55 per cent will ultimately have to have some type of surgical procedure, to get a cure.

Choose the procedure that you desire to use, use it in the right manner, and the results will be what you are looking for.

C. V. Stark, Maysville: I would like to ask the essayist if he knows whether tincture of iodine would be of any use in the treatment with the injection method.

Arthur T. McCormack, Louisville: I did not hear the paper, unfortunately, and I don't want to discuss its merits, but I want to say one thing very frankly to the profession. We have a bunch of quacks traveling around over the country selling a short, few days or a week or ten days postgraduate course in the injection treatment of hemorrhoids that has fooled a lot of innocent doctors. They are fakes pure and simple. We have arrested a dozen of them in Louisville. We arrest them whenever we can catch them. Most of their courses are secret. They try to keep them secret. They circularize the doctors; they are very careful to circularize those who are unsuspicious. They are frauds of the first water and they are misleading the men who take part with them.

They have conducted several courses in New Albany, in Cincinnati, and in Knoxville and around Kentucky, but whenever we get them we send them to jail and put them on the rock pile. I would appreciate it very much if any of you get circular letters from any of them, to let me know about it. We don't propose to have that sort of thing going on in Kentucky.

Any man who has had any experience knows that when a man says he is treating all cases of hemorrhoids by the injection method, he is guilty of malpractice. There is no such panacea in medicine. You can't do that with anything; there is no one method by which any whole

group of cases can be standardized and treated, and for a man to be fooled like that by one of these specious talkers who is a quack, is something we want to prevent. It ought to be perfectly apparent to anyone he is a quack; he wouldn't be conducting that sort of peripatetic course if he weren't a quack, he would be somewhere practicing medicine or connected with an institution where he was teaching men real medicine. Don't let yourselves get fooled into taking these courses.

I am saying this not for those who are present, because talking to a medical group is sort of like talking to a prayer meeting; you are always talking to the saints because they are the only ones who attend, but you talk to them with the hope that they will transmit it to the sinners who are not present. I hope in your county societies you will make it clear to all the members of the society, especially the unsuspicious, that these travelling peripatetic courses in therapeutics, electricity, the treatment of hemorrhoids and the fitting of glasses, are all frauds and are prohibited by law in the State of Kentucky.

Rufus C. Alley, (in closing): As to the injection of iodine, I haven't had any experience with that particular solution but it is a fact that any solution that will produce a sterile inflammation if properly injected will cause more or less obliteration of the hemorrhoids. My experience has been that tincture of iodine is not a satisfactory agent to use around the rectum because it is too irritating, certainly so if it comes in contact with the anal skin.

Arthur T. McCormack, Louisville: It does cause sudden contracture of the sphincter, (Laughter).

R. C. Alley: It does, and it will stay contracted for a while.

Lyzed Gonoccocci in Treatment of Gonococci Cervicovaginitis.—Blass and his associates used an antigen in the treatment of gonococci cervicovaginitis that was prepared by the induction of complete lysis of gonococci in young broth cultures through specific bacteriophage action. This product seemed distinctly less toxic than the older broth cultures that were permitted spontaneously to autolyze partially. The clinical results with the product seemed definitely more favorable than those obtained by any previous biochemical treatment that they have used. The bacteriophage lyzed gonococcus antigen did not produce disagreeable local or general reactions. Nine of eleven patients treated have remained clinically and bacteriologically cured for an average period of five months, while a control group not so treated had recurrences in every instance.

TREATMENT OF TETANUS*

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The treatment of tetanus was purely symptomatic until the isolation of the tetanus bacillus by Kitasato in 1889. This was followed shortly by the demonstration of its toxin and the immunization of animals with production of antitoxin. While tetanus antitoxin has proved of wonderful value in the prophylaxis of tetanus, yet in treatment of active cases the results are still disappointing.

As is well known, the tetanus bacillus is found as a normal inhabitant of the intestinal tract of horses and cattle and not infrequently of the human being. It is especially prevalent in soil and abounds in those places where the ground is cultivated and enriched by manure.

The incidence of tetanus is slight when we consider how widespread are tetanus bacilli, but this is due principally to two facts. First, the tetanus bacillus is a saprophyte and will not multiply in living tissues and, second it is an obligative anærobe and cannot grow in the presence of oxygen. A certain amount of trauma to injure the tissues and a mixed infection with ærobic bacteria furnish favorable conditions for the development of this organism. The tetanus bacillus produces spores which are very resistant to heat and chemicals and while the bacillus itself will not multiply in living tissues, the spores may remain latent and viable for long periods only awaiting a favorable opportunity to develop.

Tetanus is a pure intoxication, the bacilli growing and elaborating their poison locally at the site of entrance and in no case being found in the general circulation. The toxin of tetanus has a special affinity for nerve tissue and quickly unites with the peripheral nerves, traveling along them to the spinal cord and thence to the brain.

The most common wounds causing tetanus are the well known punctured wounds from soil-contaminated nails, wounds with cap pistols and powder burns, gun-shot wounds, so-called "street" wounds when the injury occurs on a street or highway, especially when there is a crushing and laceration of tissue. A rare cause is freezing of the feet which has been followed by tetanus in not a few cases. Operation on the intestines and other "clean" operations are at times followed by tetanus. In the latter

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cases infected catgut may be at fault but in many instances no suitable explanation can be found. The subcutaneous injection of foreign substances, such as gelatin, may be followed by tetanus and, in tropical climates, especially, tetanus of the new-born is caused at times by cutting of the umbilical cord.

The symptoms of tetanus may appear in one or two days after the injury, usually the incubation period is from six to fourteen days and may be much longer. Prodromal symptoms of stiffness, pain and a drawing sensation in the affected part may appear, but these are usually overlooked until some stiffness of the jaws is noted. Following this there may be "cramps" in many muscles. The neck muscles and facial muscles become stiff, giving rise to risus sardonicus. The abdominal muscles become contracted and the whole body becomes rigid. Opisthotonos is quite common. In some cases of head injuries, cramp of the esophagus may resemble hydrophobia. The contractions or convulsions are intermittent, may be localized or may become general and recur on the slightest stimulation. There is usually high fever, temperatures of 104° and even 107° having been noted. Retention of urine may occur. Consciousness, however, is usually retained to the end. Deaths occur from exhaustion, spasm of the glottis and diaphragm, and contractions or paralysis of the respiratory muscles. Some one has said: "Patients do not die from the disease itself but from its symptoms."

There are many bizarre and unusual forms of tetanus. In some cases the so-called "chronic" form, there may be stiffness of the muscles for weeks with no generalized contractions. Other rare forms were noted following war-wounds; some of these showed paralysis of one limb or of a certain localized group of muscles.

Prophylaxis: Tetanus antitoxin has proven of incalculable value in preventing tetanus. Fifteen hundred units is usually given as a routine in the prophylaxis of punctured and crushing wounds which may be contaminated with dirt and also in all cases of powder burns, wounds from cap pistols, gunshot wounds and the like. It is possible in many of these cases that this dose is too small and a second dose should be given one week later. This was the rule in many hospitals in Europe during the World War where the incidence of tetanus was very high. It is rare to have active tetanus develop after such prophylactic doses and when it does occur, the incubation period is greatly prolonged and the mortality rate is much lower.

Treatment: The treatment of developed cases of tetanus is three-fold: 1. The treatment of the local lesion. 2. Administration of sedatives and general supportive measures. 3. Administration of tetanus antitoxin.

Attention is called to the fact that the local lesion is often neglected, especially where this is healed. Often foreign bodies are found in these healed lesions. All should be thoroughly cleansed and excised wherever possible. In blank cartridge wounds gunwadding is present practically always and if looked for, other foreign bodies will often be found. Thus, recently in Lexington a hog's tooth was present in the wound in the foot.

The sedatives generally in use include morphine, chloral and bromides, and sodium amytal which may be used intravenously if necessary. Avertin has been used since 1928 and in a recent case in Lexington seemed to be very efficacious. The point to be kept in mind is to maintain moderate narcosis and not to wait for convulsions to reappear. Keeping the patient in a quiet darkened room is very important. It is necessary to see that the fluid intake is sufficient. There have been advocates of injection of carbolic acid solution into the extremity affected, magnesium sulphate solution intraspinally and the chloroform inhalation treatment advocated by the French, but these measures are now almost in disuse.

The statement has been made that, "Tetanus antitoxin has done more harm than good in the treatment of active tetanus." The reason for this statement is that one cannot depend upon it alone and neglect thorough treatment of the local lesion and general measures.

Administration of Tetanus Antitoxin: The difficulty of successfully treating developed cases of tetanus is increased by the fact that it is very hard to bring the antitoxin in contact with the toxin which very early becomes attached to the central nervous system. It was shown by Park and Nicoll, in 1914, that they were able to protect guinea pigs from double a fatal dose of tetanus toxin 23 hours after inoculation by 50 units of antitoxin intraspinally, when 200 units intravenously failed. Their plan of treatment at that time was to give 5,000 units intraspinally which was repeated after 24 hours; 10,000 to 15,000 units was given intravenously on the first contact and 10,000 to 15,000 units sub-

cutaneously three or four days later. This meant a total of about 30,000 to 40,000 units. As far as I can find out there have been few improvements in the administration of antitoxin since this article was published.

Our procedure in general is as follows: On admission to the hospital inquiry as to a history of asthma or sensitization to horse serum is made and the patient is given two or three drops of tetanus antitoxin under the skin and the reaction observed. In this way some idea can be obtained as to whether intravenous injection is very risky. The patient is then given morphine; and a general anæsthetic, usually ether, is administered. The wound is thoroughly cleaned out and if a punctured wound, the tissues about the puncture are cut away and the wound left open. While under the anaesthetic lumbar puncture is done and 15,000 units of antitoxin is given intraspinally after the withdrawal of greater volume of spinal fluid. Provided the sensitization test was satisfactory as the patient comes out of the anæsthetic another 15,000 units of antitoxin is given intravenously. About 10,000 units is given on the second day intravenously and on the third day, 10,000 units more is given subcutaneously. The idea is that if enough antitoxin is given on the first day to neutralize all toxin in the circulation, later doses are merely useful in taking care of the new toxin which is being formed.

We feel that if a fatal dose has already been absorbed and become fully united with the nerve cells that no amount of antitoxin will prove effective. For the convulsions and restlessness we are in the habit of using sodium amytal, chloral and bromides, but morphine is now our chief reliance and can be given in large doses without fear. As noted previously, avertin is a very useful drug. This should be given in doses slightly smaller than those advised for anesthesia and should be repeated every eight hours if necessary to maintain moderate narcosis.

Prognosis: In discussing the prognosis, statistics from wounds in the Great War are not taken into account. Practically all these cases had received prophylactic doses of tetanus antitoxin. During the last few months of the war the British mortality rate was only 19 per cent while for 1914-15 it had been 57.6 per cent.

The prognosis of tetanus bears a direct relation to the period of incubation; the shorter the incubation the higher the mortality. Without treatment the mortality in the first-week cases (incubation under seven days) runs over 90 per cent; for the 7 to 14 days incubation-time cases, 80 per cent. With adequate antitoxin treatment all classes of cases have a mortality around 50 per cent and those whose incubation periods are 7 days or longer will have a lower mortality. It has been our experience that tetanus following surgical operations is almost invariably fatal. This is due to the difficulty of finding and excising the wounded area.

Calvin and Goldberg recently reviewed 183 cases of tetanus treated at the Cook County Hospital in the past 13 years. They found that in 44 cases occurring between 1917 and 1921 the mortality was 56.4 per cent and in 85 cases between 1925 and 1929 the rate was 73.2 per cent. They state that most deaths occur within three days after the onset of symptoms and that the incubation period is the greatest factor influencing mortality. When the incubation period was one to five days, the mortality was 84 per cent and if this was from ten to fifteen days the rate was only 37 per cent. The type of wound also made a difference, gunshot and powder wounds being 95 per cent fatal while head injuries (rate 50 per cent) were not as fatal as those of the arm or leg (61 per cent). Their conclusions were as follows: (1) The mortality from tetanus has not been decreased in the past fifteen years at the Cook County Hospital in spite of the fact that in the past five years larger amounts of antitoxin have been used and it was given intraspinally to more patients. (2) They advise 10,000 to 20,000 units of tetanus antitoxin intraspinally, intravenously and intramuscularly (30,000 to 60,000 total daily) for three successive days.

F. W. Taylor believes that the mortality rate is not influenced by the method or amounts of antitoxin used but depends almost entirely upon the incubation time.

Klemmer and Crasland, reviewing 96 cases of tetanus, found that 19 patients who received intraspinal serum in conjunction with any other route of administration showed a mortality of 68 per cent, although the total mortality for all cases, including the 11 who received no antitoxin, was only 58 per cent. Fourteen cases who received the serum by mixed intramuscular and intravenous routes had a mortality of only 14 per cent.

Their highest mortality (68 per cent) was found in those cases who developed symptoms five to ten days after the injury, while in four cases, whose incubation period was less than five days, the mortality was only 25 per cent.

B. B. Yodh, reviewing 278 cases, concludes

that intraspinal medication does reduce the mortality and where cisternal puncture was done and antitoxin administered by that route, the mortality rate in 77 cases was only 23.4 per cent. while with lumbar puncture and intraspinal administration it was 50 per cent for 72 cases, and without either of these in 32 cases it was 65.6 per cent. I have seen no other reports upon the administration of antitoxin by cisternal puncture. (To get these mortality rates he excludes all those patients dying within 24 hours.) There have been many reports of a small number of cases with low mortality by some advocating the use of injections of carbolic acid locally, and by others using magnesium sulphate intraspinally; but when analysed, these reports show usually that the mortality depends upon the incubation period rather than upon any form of treatment.

Cases of tetanus following operation are usuallly not reported, for only 39 cases of tetanus following appendectomy could be collected by Wm. P. Kroger up to 1932. I am sure that this complication is much more common.

Since 1904 the author has treated twenty-eight cases of tetanus with thirteen recoveries. Of these, the first seven that were seen all died. Since that time as many as five consecutive cases have recovered. Of the twenty-eight cases, five have followed surgical operations and have all died. Of these operations, three were on the intestines, one appendectomy and one intestinal obstruction: one was an open operation for the reduction of a congenital dislocation of the hip and one for the open reduction of a simple fracture of the humerus. If we exclude two cases who died within a few hours after their first dose of antitoxin, our mortality is about 50 per cent. We would then have 26 cases with thirteen recoveries. The incubation time in these recovered cases ran from six to twelve days with only four less than one week. The amount of antitoxin given averaged about 42,000 units of which about 15,000 units was given intraspinally, 15,000 intravenously and 15,000 subcutaneously. One case was treated with antitoxin by subcutaneous injection only and two cases by intravenous and subcutaneous combined. All the other cases received intraspinal injections in addition.

It would seem to be sufficient to give 30,000 to 60,000 units the first day and then 10,000 units three or four days later. I believe that cases that are amenable to cure at all will do just as well with these amounts as with 200,000 units or even more. (One case was reported that received 700,000 units.) The apparent value of very large doses of serum is due to the fact that patients who live longer receive more serum, as it is the general practice now to give 20,000 to 50,000 units the first day and repeat this each day for the next four of five days.

SUMMARY: A brief review of tetanus has been made. The etiology, incidence, symptoms and prophylaxis are mentioned. In the treatment of tetanus the care of the local lesion and the use of sedatives are discussed.

The prognosis is shown to depend principally upon the time of incubation and to a lesser extent upon the amount of antitoxin used, or upon the route by which it is given, whether subcutaneously, intramuscularly, intravenously, intraspinally, or by cisternal puncture.

An adequate amount of tetanus antitoxin is urged, at least 15,000 units intraspinally and 25,000 units intravenously in the first two days, and enough subsequently subcutaneously for neutralization of toxin being formed.

A resume is made of the treatment and mortality of twenty-eight cases seen by the author. In conclusion, since the prophylactic use of tetanus antitoxin has been so brilliant and the the curative value so disappointing, the lesson is obvious.

DISCUSSION

N. M. Garrett, Brodhead: Tetanus is a subject in which I have been interested for a great many years. I saw my first case when I was a medical student and I think my last, ten or twelve years ago. There is one point I would like to emphasize in regard to diagnosis. Most of us look for the trismus, the sardonic grin, and perhaps convulsions. The last case I saw so simulated an acute abdomen that I was thrown off my guard in the beginning and did not make a proper diagnosis. I was called in the night to see a man, and another doctor had seen him perhaps a half hour before I did and had given him a dose of morphine, but even then his abdomen gave such symptoms as suggested appendicitis or some other abdominal condition. I saw him again in a few hours and was practically satisfied that he had tetanus. He was gotten to the hospital and I gave him antitoxin intravenously, intraspinously and subcutaneously. He died very promptly. As far as I know he did not receive the prophylactic dose. He had had a nail puncture about two weeks before and was treated by another doctor, and I don't think he had the prophylactic dose of antitoxin.

In regard to these nail punctures, what are you going to do when you get one? A few years ago I was doing industrial work for a fac-

tory where they had a great many nail punctures. I was a believer in giving antitoxin, which I did to practically all of them. Then the question arises: Suppose he punctures his foot again in a few months, what are you going to go with him? He soon would have serum sickness. Especially children, if you let them go barefooted, get so many scratches and injuries that it is not practical to give them antitoxin every time they break the skin. With regard to nail punctures, it is theoretically a good idea to cut out everything from around the wound; it isn't practical, because there are too many of them. About all I do locally is to paint them with iodine and put a dressing on them.

I had a unique experience once in the Philippines. I was called to see a native woman. She had three of four places, one on each arm and one on each leg. Those on the leg were not so extensive. On one arm she had a place as big as a quarter, eaten down, looking like an ulcer. She had a ball of wax in one of these places, covered with a leaf. She had tetanus. At my second or third visit her husband asked me if she was going to die. I didn't know enough Spanish to state the pros and cons of the case to him, so I said, "No say," meaning that I didn't know. But according to their religion they began saying a ceremony over her and she died within about fifteen minutes after they asked me that question. I always felt she was scared to death.

I have never been fortunate enough to see a recovery from tetanus. I have not seen a case for twelve years.

I think Dr. Bradley has given us an excellent paper.

Arthur T. McCormack, Louisville: I had the experience when I was in practice of having six successive cases die. Then I tried the plan of introducing a catheter through the nose and using normal saline by the drip method in addition to using the antitoxin and the ordinary sedatives, and I had three recoveries following that treatment. I have wondered whether the suggestion of Dr. Hendon in regard to venoclysis in these cases wouldn't be of great value.

We saw at the autopsies in the pathological department of Bellevue when I was having my service there, that most of these cases that died died with anuria. The whole idea of the dilution of the blood by the addition of saline solution has developed since that time, and it seems to me that it is a matter to which attention should be called, because the addition of fluid is certainly an essential; it is practically impossible to swallow it, and it is very easy, by introducing a catheter in the nose to give the necessary fluid. It seems to me that it would be far better if these more modern methods could be adapted to that same purpose.

E. R. Bradley, (In closing): Cases of tetanus are very dramatic and very distressing, due particularly to the fact that they retain consciousness until death.

The first case I saw as a student at Ann Arbor. It was a Fourth-of-July wound in a little boy. I have never forgotten it. The surgeon in charge gave big doses of antitoxin subcutaneously, but not intravenously. The incubation time was about four days and, of course, this made the chance of recovery very slight. The surgeon amputated the hand for a blank cartridge wound in the palm. I saw the boy die. When I was an interne I saw a big strong man who had a nail-puncture wound in the foot. He was a house-wrecker and had stepped on a nail. I suppose he had stepped on thousands of nails before. He came in, I think, because the wound suppurated a little. Soon after entrance to the hospital his jaw became stiff. I remember we gave him $96.00 worth of antitoxin at the expense of New York City. I saw him die. There were no private rooms at the hospital where I was interne, so it was necessary to move about forty patients out of the ward in order to isolate him in one ward by himself.

I know of no experience that upsets me so much as to see these patients die. It is the fact that they are conscious that makes it seem so sad.

Dr. Garrett mentioned giving tetanus antitoxin to those patients with puncture wounds in the foot. A person might get many wounds in the foot without getting tetanus, and yet if there is any question about the nails having been contaminated or having gone through the shoe—a nail doesn't have to be contaminated if it carries dirt from the ground through the shoe—I think those cases should receive tetanus antitoxin. If they have received it previously I think it is well to give them, if you want to try them out, two or three drops under the skin, and have a little adrenalin near you. There is not nearly so much danger from anaphylaxis as there is from tetanus, and the danger from anaphylaxis is greatly overdrawn. I have given with fear and trembling, diphtheria antitoxin to children who had received an immunizing dose some days previously, thinking of the possibility of anaphylactic shock. Whenever I have expected this trouble, it has not occurred. I advocate giving tetanus antitoxin to all those patients with punctured wounds, because you cannot cut out a punctured wound very well without causing a great deal of damage to the tissues and thereby prolonging the disability.

Dr. McCormack's pathological report giving anuria as the cause of death is very interesting. Most authorities, however, give spasm of the diaphragm, spasm of the larynx or of the respiratory muscles as the cause of death. In other words, it is true that patients die from the

symptoms of tetanus. I think he is right about giving fluid, and that is always mentioned in the treatment of tetanus. Usually it can be given by mouth, but if it cannot, it can be given by hypodermoclysis or intravenously.

I should like to emphasize the use of avertin, because I believe it is better than magnesium sulphate or any of the sedative drugs for controlling the spasms. I must confess that I have used it very little. It has not been in use very long in our locality, but in the last case I saw (it was not my case) it was used and it worked perfectly beautifully. If you give it in just a little less than the dose recommended, according to the size of the patient, for ordinary anesthesia, you can keep the patients in moderate narcosis, and while not completely asleep, they will take fluids, they don't have convulsions, and I think it is probably the best of all the drugs to give.

I did not mean to over-criticize the use of large amounts of tetanus antitoxin. If people can afford it, it is all right. I don't think it does any harm to give them a million units, but I don't think it does as much good to give the big doses as is generally thought.

CANCER OF THE CERVIX*

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The discussion of cancer as such, or as it involves any particular organ or structure, is one that does or should intrigue each worker in medicine and surgery—no matter in what particular field his endeavors are directed.

Its antiquity as a recognized disease fatal in its outcome, its biologic and geographic distribution, its rapid progress and lethal ending when usually recognized, our inability thus far to discover any pathognomonic clinical sign which enables us to diagnose it while still in the curable stage, all stimulate the research worker and the practitioner to further endeavors to uncover its cause and devise a cure. And the man on the street is just as interested and as vitally concerned as are we of the profession. There is no field of quackery which rewards so abundantly and for a time so surely as that of the cancer charlatan; consumption cures occupy a secondary place.

You are told that cancer is on the increase and this is quite true because under our improved living conditions, with better hygiene and the beneficent work of our Health Departments, life itself is being prolonged and many many more individuals are living to reach the "Cancer Age." Then also we have better doctors, more able surgeons and more learned pathologists so that we are in a position to recognize many symptoms as due to cancer when formerly we might have attributed not only the symptoms but death itself to such causes as indigestion, change of life, etc. Yet with all our knowledge, with all we have learned about cancer we know no more as to its specific cause than was known to the Egyptians or ancient Greeks. No cancer germ has been discovered nor has as yet any specific cure been elaborated.

We have, however, learned many things about cancer, and with this knowledge we are now consolidating our position for further assault. We believe the time has come to speak very plainly not only to the public but to each other if we are to proceed in our advance and bring this disease under the same control as we have many others.

Cancer is a universal disease attacking not only the entire animal kingdom but also the vegetable kingdom, being not at all uncommon among plants and trees. Biologically this means that cancer is a disease of the cell itself and further that it is confined to cells of a certain type, which in animals is recognized and known as the epithelial cell. It is in this type of cell alone that cancer may originate. It never begins in a bone cell, in a muscle cell or in a nerve cell. All and any character of cell or tissue may be destroyed by cancer but it can have its origin only in an epithelial cell and no matter where it is transported in the body or where it may grow it is always of the same epithelial type. Let us get this perfectly clear in our minds as it will help much in our interpretation of lesions, both primary and secondary, occurring in the body. Remembering this we therefore may know the structure or origin of a primary cancer of the breast, or of the stomach or the cervix uteri. We also will then know that it cannot begin primarily in the fat, in the muscle or in bone, and when found in such structures it must be secondary in its character.

With this knowledge firmly fixed in our mind we then ask ourselves, Why? What is the cause of this epithelial overgrowth, this riotous development of apparently functionless epithelial cells to a point where life itself surrenders to their invasion, and we also wonder how and why such surrender to growths of small extent. Do they produce something which kills, is the by-product of the metabolism of cancer cells lethal in its action? It seems to us that herein may lie

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the key to the early diagnosis of cancer when developing in the concealed body areas and possibly also the answer to a cure for carcinomatous disease There must be some cause behind this cell overgrowth. Wherein does it lie? Is it hormonal? Why the rapid progression of cancer of the cervix or breast when pregnancy supervenes? Is the stimulating factor in the anterior pituitary lobe, is it in the progestin or theelin elaborated in the ovaries? Lewis & Geshickter have shown a very definite relationship between certain breast growths and the ovarian hormones and have also in mammary adenomas and fibro-adenomas found upon assay large amounts of these hormones present as also have they found them in the fluid of certain mammary cysts. What is the significance of such observations as bearing upon the causative factors of carcinoma. We also know that carcinoma of the breast or of the cervix may be, certainly temporarily, influenced by castration.

We have learned in the laboratory how to grow cancer cells and tissue and are definitely in a much more advanced position for further attack upon the problem. We can also say definitely, having proved it experimentally, that prolonged irritation is a positive contributing factor in those susceptible to, or at least lacking an hereditary resistance to cancer. Susceptibility or resistance has also been proved in the laboratory and among experimental animals it can now with certainty be predicted which will and which will not develop cancer. These are very great achievements. Genetics has been shown to play no little part in the disease as further borne out by the studies of the incidence of tumors in homologous twins. Occurring in such they are always similar, symmetrical and simultaneous. With one recent exception there is no reported case in which one homologous twin suffered from a tumor without his fellow being similarly affected and furthermore such coincidences are not recorded among heterologous twins (McFarland and Meade.)

As bearing upon the subject under discussion we find that of the women over forty 14.3 per cent die of cancer, of which number 30 per cent die of cancer of the uterus. Cancer of the uterus begins at the cervix in 90 per cent of cases (Smythe) and of these patients the vast majority have borne from one to four children. Evaluate the number of child bearing women who escape birth injuries in the cervix. Here we have our answer and also a partial solution not only to the prevention of cancer of the cervix but also to its early discovery and early treatment. There is no place where the adage "an ounce of prevention is worth a pound of cure," is of greater value and more worthy of application than here. Unquestionably periodic examinations, of sufficient frequency, properly and carefully done with proper treatment of cervical damage and infections will not only prevent many cancers but also enable us to discover them at a time sufficiently early to reduce the mortality to an enormous extent.

"Ninety per cent of cases of cervical carcinoma have their origin in lacerated cervices. It is the cervicitis which always develops after laceration which is the predisposing factor. Hunner subjected 2895 cases of chronic cervicitis either to amputation or to cauterization, and found, after a follow-up of ten years that not a single case of carcinoma developed in the series. Bossi has recorded equally good results following plastic operations upon the cervix. Combined statistics of Pemberton, Smith et al., Smith, Bland and Graves, as quoted by Saltzstein and Topcik, show that of 18,562 patients who were treated by surgery or diathermy for cervical lesions, only 15 subsequently developed cancer. The same authors quote statistics which show that of 2,255 patients with carcinoma of the cervix only 33 had received adequate treatment for chronic cervical lesions. Trachelectomy is apparently a somewhat more effective method of securing prophylaxis than either cauterization or trachelorrhaphy.

"Periodic examinations of patients during the cancer age are undoubtedly of value, and, even if performed only once a year, would lead to the discovery of at least a few early cases." (Norris.)

In our own series the five year cures in early cancer is 85 per cent. But there are few early cases. In the large cancer clinic of Regaud in Paris a pitifully small number of early cases are seen (Bloodgood). In the year 1932 in our cancer clinic at the Norton Infirmary we saw and cheerfully examined 70 women referred for suspected uterine cancer. Of these 17 were diagnosed and proved malignancy of the cervix and 13 of the body of the uterus; all of the patients had birth injuries; bleeding was present as a symptom in all and while two of them might by some stretch be classed in Group I. (League of Nations grouping) none was free of ulceration or breaking down of the cancer focus.

How are we then to recognize cancer and particularly cancer in the cervix? The early

symptoms of cancer in general are very obscure in the light of our present knowledge. *However, we may say that a patient having symptoms referable to any organ or physiologic system which have existed for a length of time should be viewed as a cancer suspect should there be a sudden change or alteration in his symptoms unless such indicated a definite and recognizable improvement.* In this connection we would at this time call attention to the fact and it is a fact, that pain is never an early symptom of carcinoma. Until quite recently all of our teaching has stressed pain as a symptom of the disease, no matter where its location. This is a very great error for in the beginning, in what we term the early stages, pain is never present. What we have in years past visualized as the symptoms of cancer are the evidences of advanced disease and are indicative of the advanced or terminal stages. It will require much study and the correllation of the work of the pathologist, the surgeon, the general practitioner or family physician and the chemico-biological laboratory worker before we are able to say definitely what may be the early symptoms of cancer. Many biopsies must be made, bio-culture methods developed, X-ray studies done, exploratory operations resorted to and most careful clinical histories recorded before even the beginning dawn will appear in this great early diagnostic day. In the particular field under discussion the problems and difficulties are not nearly so great for here we have easy access to the field to be studied and if one bears in mind the causes of cervical carcinoma early recognition will not be a difficult problem. So far as the patient herself is concerned there may be only a discharge from the vagina, which does not yield to simple treatment. Such in a child-bearing woman is sufficient to necessitate careful examination and study, local treatment or biopsy to definitely determine the true local status, i. e., whether or not cancer is present. In the large percentage of cases bleeding, often following coitus, is the initial symptom noted by the patient though it must be remembered that while this may be the first symptom noted it may not be early in the disease. Certainly discharge, foul in character, pain and bleeding belong to the advanced and often hopeless case and never to the early stages.

How are we then to make an early diagnosis? This in our opinion is the most important feature of the discussion before us as after all the responsibility will lie with the attending or family physician. Permit me here, to quote *in toto* an editorial from the J. A. M. A. upon such responsibility.

"Cancer, it has been said, is an unsolvable problem, certainly for the problem of the cause of cancer not even an approximate soluton is available. Indeed, the great central problem of life and cell growth has not yet been solved. Whether these problems are unsolvable, no one knows. The advance of biologic science is marked by efforts to explain the succession of phenomena that are laid bare as investigation proceeds rather than by the complete understanding of basic biologic problems in the final sense. In this gradual progress of science, results of great practical importance are achieved from time to time. The discovery of the tubercle bacillus did not solve the problem of tuberculosis, but it did show the right way for further study and for better control of the disease. How the bacillus produces disease and how the body reacts against the bacillus are still largely unsolved problems. The fact is that science provides no complete, no ultimate explanation of any disease: hence little wonder that the problem of cancer remains unsolved.

"Notwithstanding the slowness of scientific progress, the knowledge of cancer is actually growing. The truth is that more advance has been made in detailed knowledge of cancer during the last two or three generations than in all previous time. The details of this new knowledge need not be reviewed item by item. The practical outcome is that, while any complete understanding of cancer has not been reached, the power of medicine to prevent, to diagnose and to treat cancer has been increased enormously. And the responsibilities of the physician with respect have increased likewise. On him rests primarily the duty to make sure that the individual patient receives the benefit of the knowledge and the measures that tend to prevent cancer. Briefly, prevention of cancer rests mainly on the avoidance and removal of "local irritation." Just how "local irritation" acts to cause cancer is not known, but there is not a doubt but that it may lead to cancer. Of the tissues liable to such irritations and chronic inflammations may be mentioned the uterine cervix with its lacerations and "chronic cervicitis," the skin and its moles and ulcers, the mouth, the tongue, the mucocutaneous junctions, the breast and the prostate with their chronic hyperplastic inflammations. Here is indeed a wide field for constant preventive efforts by the progressive, cancer conscious physician.

"Self evidently, on the physician rests also the main responsibility for the early diagnosis of cancer, on which in turn depends the outcome of its treatment. In connection with this

matter, of such vital significance to the individual patient, the physician must consider thoroughly and conscientously such questions as these: Has he formulated for himself a wise and practical plan for action in all cases in which the question of cancer may arise? Are his regular patients likely to report to him promptly the appearance of any suggestive symptom or sign? If not, why not? Is he fully prepared to take without delay the necessary steps, either by himself or through competent consultants, to secure the final diagnosis in a given case with a doubtful lesion. Does he realize fully that it may be a fatal error to tell a patient with a suggestive lump or lesion somewhere to 'forget it and come back next month'? Are the services of a competent pathologist readily available and will adequate specimens for microscopic diagnosis reach the pathologist promptly and in the proper state of preservation? Are the special experts to whom he may refer cases for diagnosis and treatment fully equipped in all respects for prompt and efficient service? Does he accept in its full meaning the statement that the treatment of cancer, surgical as well as radiologic, should be entrusted only to those who have adequate skill and experience? These are the questions that the physician must answer in a practical and trustworthy manner if he is to meet his responsibility with respect to cancer as now understood. Better control of cancer by prevention, early diagnosis and prompt treatments rests with the physician."

And here just a word as to competent skill, especially in biopsy, as upon the report of the pathologist will rest the final decision as to whether or not a major or mutilating operation will be done, not only often accompanied by a risk of life but when successful condemning the patient to constant observation for a return or metastasis, in the individual living as it were under the Damoclean sword. In our opinion there are far too few competent pathologists. They are really the great need of today in our profession. Competent operators abound, skilled in technique and the care of the patients but often they are led into giving advice which may not have a firm and solid foundation because based upon an incorrect pathologic interpretation. Our experience has been that at times the pathologist is uncertain whether a submitted section is benign or malignant, when this occurs too often the case proves to be benign. So it is better if there is a doubt to submit sections to two or three pathologists, and again if they do not agree our observation is that under such circumstances we are not dealing with malignancy; above all the surgeon himself should have a pathologic training, it is as important as his anatomic knowledge.

It is evident then that a diagnosis early is not always an easy matter. Certainly in cancer of the cervix it does not rest upon subjective symptoms. As said our subconscious marshalls before the minds eye the symptoms which we now know are indicative of advanced and late diseases.

In the cervix, pain, hemorrhage, discharge all belong to the beginning of the end rather than the beginning of the disease. They are not initial symptoms but terminal symptoms. Our early findings are entirely objective and by periodic examinations, properly carried out, cancer will be discovered before the so-called early subjective symptoms appear in the picture.

Two things are primarily needed; "first, a clearer knowledge of the histological appearance of cancer; and second, some simple test by which the latent area may be accurately located for purpose of biopsy." (Graves). The work of Schiller of Vienna stands out in this direction. He noted that cancer of the cervix began in leucoplakia like areas. He also noticed that while many of these areas could be discovered by careful search with a colposcope it was impossible by the naked eye to distinguish cancer leucoplakia from hyperkeratotic leucoplakia, though such "differentiation can be made by histological examination."

When the normal cervix is painted with Lugols Solution the epithelium acquires in one-half to one minute a mahogany brown color.

Painting with iodine is of value in locating new growths as long as it is in the stage of a carcinomatous layer. As soon as the growth ulcerates, the surface nearly always being necrotic stains brown with iodine and the method is therefore not helpful.

The histological diagnosis is made from the characteristic polymorphic and atypical cells of the epithelium. Up to the present time we have not known of a characteristic of a carcinoma which would enable us to unmistakably diagnose it. (The ability to recognize cancer cells is a matter of training.)

Iodine painting is a diagnostic method only in the sense that it draws attention to the pathological area; it does not, however, indicate the nature of the pathological process. The pathological diagnosis can only be made upon histological examination.

A carcinoma which begins in the cervical canal, infiltrates the connective tissue, and

undermines the epithelium without reaching the surface cannot be diagnosed with the method of painting with iodine A majority of cancers begin at the external os, or outside close to the external os. (Schiller.)

While the Lugol test is of the greatest clinical value there are various factors which may obscure it so that while a positive test may not always without the microscope be indicative of cancer, a negative test is specific for the absence of carcinoma.

It is important to remember that early in the disease the changes are confined to the epithelium. We no longer look for breaking through the basement membrane. It is therefore imperative that the microscopist take into consideration the character of the epithelial cells above everything else to arrive at a correct diagnosis.

Our diagnostic routine at the cancer clinic in cases examined for cervical malignancy is as follows:

1. A gentle bimanual digital examination followed by
2. Gentle introduction of speculum and visual inspection. Even though things look apparently normal this is followed by
3. Colposcopic study and then
4. Lugol application is made to the cervix as Schiller advises and any lack of deep coloring noted. If there are areas of unstained (keratinized) mucosa such areas are subjected to
5. Biopsy, the section being removed if no ulceration with the diathermal cautery loopknife. For this we use the Bovee Unit.

The biopsy material if cancerous is also considered by the pathologist with reference to the radio-sensitiveness of the cells and is graded as to the degree of malignancy according to the classification of Broders.

In our state cancer causes 7 per cent of all deaths, approximately 2,000 in a total death census of 28,528. These are the figures for 1933 and probably fall a bit short of the actual cancer deaths. There is no question that biopsy material is at times mis-interpreted and that diagnoses of cancer are made when the growth is benign. So also conversely we are sure that occasionally benign growths are diagnosticated as malignant.

Having made a diagnosis the most vital question to the patient is what can be done to eradicate the disease. Some years ago we expressed the opinion that the day of surgery in the treatment of the disease in this locality had passed and that all cases early and late should be treated with radium. Early in the use of radium it was the practice to confine its use to the moderately late and late cases and to treat the early cases by radical surgery. We began the treatment of early cases entirely by radium and x-ray in 1917 and we have never had reason to regret it.

The technique of our treatment has been a gradual development but we are firmly convinced today that following early diagnosis irradiation is the most important factor in achieving the best results. This irradiation must not only affect the disease locally but must also reach the cancer cells which have penetrated the deeper structures.

We believe in types 2, 3 and 4 our radium treatment should invariably be supplemented by high voltage X-ray to the entire pelvis. One is enabled with the X-ray to give a much larger dose 2 or 3 inches below the surface without the resultant destruction of tissue to an undesirable extent as would be the case were radium used for this purpose in sufficient dosage and for sufficient time.

It is our practice to complete a series of X-ray radiation before the radium treatment is commenced and to allow a period of a week or ten days to elapse between the conclusion of the X-ray series and the beginning of the radium treatment. We endeavor to plan the X-ray treatment in such a way that the cervix and adnexa receive approximately 150 to 200 per cent of a skin erythema dose.

The number of portals and the treatment time depends upon the girth of the patient as well as upon the extent and severity of the disease. We not only feel that the end results are improved but we are sure that the radium approach is facilitated since the preliminary X-ray treatment tends to reduce large cauliflower masses and to give local infection a chance to clear up. Not infrequently we have seen type 3 cases so improved after a series of x-ray that they were considered suitable for radium treatment whereas when they first reported the conditions seemed entirely hopeless for anything except very brief palliation or possibly merely stopping of the hemorrhage.

We will not discuss the details of treatment but do wish to impress the necessity of complete cooperation, intensive study and correlation of effort upon the part of the pathologist, radiologist, clinician or surgeon and the family physician if the best results are to be attained. Such unity of effort makes for not only early diagnosis but for a much higher percentage of cures.

Can anything be done for the hopeless and so-called incurable cases? We have seen truly

remarkable results from deep x-ray therapy such as apparent arrest of the disease from a year or two to four years. The terrible pain which so often here as in cancer in other regions has in the past demanded large doses of morphine, in fact the making of an addict of the patient can and is best treated we think by subjecting the individual to a cordotomy. We have in the past subjected patients to such procedures with very satisfactory results. Of late since we have in our community such neuro-surgeons as Drs. Spurling and Jelsma we prefer that they do such operative work. In fact within the past 30 days, they have operated such a case for us with most happy results. Incidentally in cancer in other regions especially in the spinal recurrence in breast malignaney this procedure is far preferable to making a "dope" of the patient. There are also cases in which bilateral castration may delay development for a time, so taken all-together there is no reason today, in the light of what surgery can and does do, to simply abandon the hopeless case to a miserable and suffering death.

And just as the above type of surgery demands special knowledge by a surgeon skilled in that type of surgery so also does "the use of deep x-ray therapy and radium require for their proper application just as much training as does the successful use of the scalpel. We cannot condemn too strongly the indiscriminate use of radium by those not trained to fully appreciate its action and effect.

Before closing we wish to say a word concerning the treatment of cancer with colloids as suggested by Bell some years ago. Some of Bell's cases were reported not unfavorably by the British Cancer Commission, since which time Todd of the Bristol Royal Infirmary has been using Lead Selenide in colloidal form in treatment of incurable cases wherever situated. His report appears in the British Journal of Surgery for April of this year. In this report he shows some apparent cures, some 18 cases in his entire series, the duration of apparent cures ranging from 3 to 20 months—a period in our opinion entirely too short to arrive at any definite encouraging viewpoint as to the effect of his remedy.

"There is nothing the medical world would welcome more than the news of a cure for cancer. The discoverer, if he chose, could make an immense fortune. Instead he will probably give it freely to the world. There is, however, no evidence that there is any prospect of so happy an event in the immediate future, and the more our information grows, especially from the experimental side, the less certain such a prospect seems.

It is perfectly proper that everything that offers the slightest possibility of benefiting the cancer patient should be tried, for it is impossible to say from which direction the discovery of a cure may come. But it is probable that mere random experimentation by those not highly trained will lead to no important discoveries. The fact that cancer cells are a real dependent life inside the body just as much as the fetus is, and perfectly adapted to the soil in which they grow, does not seem to be recognized, even by research workers. This ignorance leads to the random injection of all sorts of substances in the hope that some remedy may be blundered upon by the mere exercise of industry.

The highly emotional reaction of the laity to any suggested cure for cancer, and scarcely a week passes that one is not announced, places an obligation on the profession to guard their statements, and not to use this emotional instability as a means of obtaining money or material for extensive human experimentation."

THE TREATMENT OF TUBERCULOSIS IN THE HOME*

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Since the discovery of the tubercle bacillus by Koch about fifty years ago, the whole outlook on tuberculosis has been revolutionized. Tuberculosis as the cause of death has receded from that of first place to about the seventh. This great decline in the death rate has not been due to any specific drug used in the treatment or to any special procedure in handling a specific case but rather to improvement in living conditions, sanitation, feeding, etc. The latest statistics show that the death rate in Kentucky in the last five years dropped from 103.9 to 85.9 per one hundred thousand population. No doubt these figures are in the main correct, but the fact that there is such a wide variation in the figures when taken for each county separately (Hickman county with 23 and Christian with 344) makes one want to ask, "Why?" The death rate from tuberculosis does not vary so widely in different sections or from year to year as do certain epidemic diseases. It seems to me that these figures show that there are many more deaths from

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tuberculosis in certain communities than are reported and that the death rate can be much further reduced by improvement in the treatment and care of these cases.

It is estimated that there are more than 15,000 people in the state of Kentucky who are afflicted with tuberculosis. In checking the number of beds available for the care of tuberculosis in the institutions of the State it is found that only about 15 per cent of those having the disease can be cared for in these institutions. Some system of home treatment, then, should be instituted by which the other 85 per cent could have the necessary treatment.

The object of this paper is not an argument against institutional treatment of tuberculosis, but is simply a discussion of some of the methods of treatment in the home, how they may be used to the best advantage and with the greatest benefits to the patients. We have in the state of Kentucky a few institutions for the treatment of tuberculosis which are well equipped and which have the highest type of management, but which are, as previously shown, wholly unable to care for the number of individuals suffering with the disease and in need of such treatment. It is possible for those communities which have such institutions as Waverly Hills in Jefferson County and the Julius Marks Sanatorium in Fayette County to care for those in their community in an adequate way. This is done by the careful selection of the patients, sending those who are in need of institutional treatment to these sanatoriums and those who are less sick to their homes where a combination of institutional and home treatment may be followed under the direction of these institutions. The Kentucky Tuberculosis Sanatorium is adequate in every respect to care for the limited number of patients which it is able to admit, but is wholly unable to care for all of the patients in the state of Kentucky. It is impracticable for this institution, because of its location, to undertake to establish any kind of home treatment.

There are many reasons why it will be found necessary to treat tuberculosis in the home. Some of these the patient is in no way responsible for, such as adequate facilities furnished by a state or community for the proper care and treatment of the disease. The patient may be prejudiced against hospitals and prefer treatment in the home. Occasionally a patient may prefer his home physician and in that way necessitate home treatment. For an institution to undertake the treatment of a patient so far advanced with the disease that there is no hope of improvement or cure, is a waste of time and money which would better be spent on someone who has hope of improvement. Such a patient can be made comfortable in the home and the hospital can be used to a more profitable purpose. Many of these patients do not have enough funds to bear any part of the expense of hospitalization. Regardless of the reason, many of these patients are and will continue to be treated in the home. The responsibility therefore rests with the physician to provide the best care that it is possible to have under the given condition.

The scope of this paper, therefore, is not dealing simply with the home treatment of the class of patients so cared for by these institutions, but rather the home treatment of all forms of tuberculosis. Tubercular patients who are outside the jurisdiction of these institutions constitute more than 85 per cent of those suffering with the disease. It is just as necessary for them to have reasonably adequate care as it is for those who are more favorably situated.

The status of tuberculosis as a communicable disease is so well founded as to call for no argument on this point. Particular attention, and properly so, has been given in recent years to the relation of the family unit in the propagation of the disease. All factors that are present in poverty, such as overcrowding, under-nourishment, and poor environment, of necessity play an important part in the wide spread exposure and tuberculization of the population. The intimate contact of the members of the family unit is most favorable for the immediate and intensive spread of the disease. The widespread exposure over considerable periods and consequent tuberculization of the population has been repeatedly demonstrated.

If, therefore in Kentucky, tuberculosis is a family problem, and I believe it most certainly is, its proper solution and control depend largely on the family physician. Because of the low economic state of the population groups in which many of these cases are found, the physician is greatly handicapped in rendering the kind of treatment needed. The experience of most general practicing physicians is that many cases are seen for the first time by him who are in the last stages of the disease and only have a few days to live. Such cases must be made as comfortable as possible but the opportunity for the physician to render worthwhile service has passed. Some organized effort to include the family physician and to assist him

in overcoming these difficulties will go a long way toward the reduction of the death rate from this disease in Kentucky.

It is important for the treatment of tuberculosis in the home that the home surroundings should be made such that the proper treatment can be instituted. This can usually be done even in the poorer homes. The selection of the proper room should be made with a great deal of care. If the home is one of several rooms it will be found easy to select a room which can be properly ventilated and properly heated in both summer and winter. If the home consists of only two or three rooms and the family is too large for the housing and sleeping of the family without the patient sharing the room with other members of the family, the problem is made much more difficult. The patient may be in a home in which the financial conditions will not permit the spending of the necessary amount of money to properly screen and otherwise make the home comfortable. These are problems which must be solved in the best way possible by the physician whose responsibility it is to care for these patients in their homes. Many times the treatment must be carried out under conditions far from ideal. Often they may not even approach the physician's minimum requirement, but we can only do the best we can with what we have.

The patient suffering with tuberculosis is a patient seriously sick and should have the best nursing care possible to be given under the circumstances. Many times it is most impossible to get the patient or those responsible for his care to understand the importance of careful and constant nursing. The doctor may have to spend much valuable time with those concerned in the nursing in order to educate them to a reasonable point of understanding. It is often very difficult to bring the patient and those in the home to know the importance of some of the fundamentals in the successful treatment of tuberculosis. They can see no reason why the patient should be kept in bed for a considerable length of time, or why the surroundings should be kept quiet and pleasing, or why the ventilation should be such as to furnish adequate amounts of air. It is hard to teach those in the home what constitutes a diet which will be digestible and building, and the importance of regular baths. The doctor must impress upon those in the home the importance of their following strictly his orders in reference to these things. It may also be necessary for the doctor to instruct the members of the family as to how conditions outside the home may be improved in such a way as to make the cure of the patient more certain. The careful physician, by giving some attention to these things, may bring about fairly satisfactory conditions even in the poorer homes. He will be many times repaid for his efforts by the comfort and cheerfulness of the patient.

The physician whose practice is largely in the private homes can, by a careful, regular, periodic, physical examination, detect many of the early cases of tuberculosis before they have reached a stage of hopelessness. The family physician has usually known the patient for a considerable length of time; he knows his relatives, his associates, his habits, his environment, and possibly has treated him for most of the diseases with which he or she has suffered. This knowledge which he has and which can only be given to some one else in a disconnected history, places the family physician in a much more favorable position to make an early diagnosis than is possible for anyone else. The very mildest of symptoms in certain individuals should arouse the suspicion of the physician that his patient may have tuberculosis. The diagnosis should not be announced to the patient however till the physician is reasonably sure that he is correct in his diagnosis and only then after very careful explanation to the patient of the importance of exceptional care in his particular case. A very large number of people consider tuberculosis as a fatal incurable disease and the shock which may be produced by the abrupt announcement of the diagnosis may have much to do with retarding the recovery of the patient. Much more harm may be done and I think usually is done by a too superficial examination making a negative diagnosis in an individual who is infected with the disease. I sometimes think that if we physicians tried as hard to make a positive diagnosis as we do to make a negative one we would cure many more of our patients than we do.

DISCUSSION

W. T. Little, Calvert City: Though the death rate of tuberculosis has been reduced from more than 200 per 100,000 to less than 70 during the last 30 years, it still remains our chief health problem. The death rate in Kentucky in the past few years has averaged nearly one death per physician. It has been estimated that there are more than 15,000 active cases annually, which would mean that there is an average of five or six cases to every physician in Kentucky. He has no other disease in which at all times he has an average of six patients, with the exception of periods of epidemics of acute infectious diseases. He has no other disease

that means as great an economic loss to his patient, as many hours of illness, and as great a source of danger to those within the immediate household.

It is a well recognized fact that by far the best method of treating a tubercular patient is in a well equipped sanitarium, but unfortunately only a small per cent of the tubercular patients of this state can be cared for in a sanitarium.

With this brief summary of the present situation of the tuberculosis problem in Kentucky, we come to a realization of the importance of the paper you have just heard. The Doctor said in his paper that the greatest responsibility was with the family physician, and it most certainly is. We have our campaigns for early diagnosis, in which we lay great stress upon the importance of the people coming for an early examination. When you stop to think about it, there are not many people who are sick very long before they consult their family physician. Occasionally we find someone who is afraid to go for fear something will be found wrong, but nearly everyone who is sick presents himself fairly early for examination, and I think, with all respect to us of the profession, that what we need is a greater campaign for the ability of the physician to diagnose these conditions. He should be more careful and equip himself for a better and more thorough examination of his patients, with a view to early detection of tuberculosis.

We have within our state three most excellent institutions, and I wish that all of you were better acquainted with the wonderful work that is being done in each of these institutions. It was very gratifying to me in May at a meeting of the National Tuberculosis Association in Cincinnati, to hear a wonderful report made by two physicians from Waverly Hills on the end results of some 300 or 400 collapse treatments.

We should make a great effort to increase the capacity of the beds in our institutions so that we will have more patients at least for a short stay in these institutions where they can be classified and referred back to the family physician with suggestions as to continued treatment. More physicians should make at least a short stay at these institutions, and I am quite sure that this is possible at all of them. They are glad to give you a short postgraduate course, and you can familiarize yourself with some of the more common methods of diagnosis and treatment. Pneumothorax is a very efficient method now if applied to selected cases and at the proper time.

Arthur T. McCormack, Louisville: I don't know when I have heard a paper that I think is of more importance to every man who is practicing medicine in Kentucky than the paper that Dr. Edwards has presented here. Most cases of tuberculosis in Kentucky are going to be treated, if at all, in the home. Most of them in the past have been mistreated in the home, and it is important for us, if we are going to properly evaluate ourselves, to meet this thing fairly and squarely. I am satisfied that there is nothing to do with patients with tuberculosis that you don't do with surgical cases, or any other kind; be perfectly frank and perfectly honest with them and tell them frankly what you are doing and what you are trying to do.

The very fact of the variation in the death rate from tuberculosis from county to county in Kentucky, known by those of us who are acquainted with the management of the cases locally, is explained in every instance. We know just exactly why the death rate in Christian County is higher than it is in any other county in the United States, because the cases there have not been treated properly, because there has been no attempt to follow-up the contacts, and because of local conditions in the county nothing has been done to meet the problem.

In Calloway County, which had an equally high death rate, the death rate has been cut down to twenty-five per cent of what it was five years ago, by careful and systematic work on the part of the entire medical profession. Comparatively few of the cases have been hospitalized and comparatively few can be in Kentucky under our present economic system. The state sanitorium at Louisville now has 76 patients occupying its 72 beds. The extra four are on porches and are really just crowded in.

We are attempting to borrow $250,000 from the Public Works Administration for the purpose of doubling the capacity of the institution and we are hopeful that we will get that money eventually, although the red tape seems to be almost as hard to cut as it is to get a doctor's bill paid through the FERA.

There is no question but that there is a definite relationship between every existing case of tuberculosis and every individual living in contact with it, and the family physician's responsbility is to watch every single individual who has been in contact with a case of tuberculosis, who is in his practice. The ideal has been reached in Scott County where with a stationary population the number of deaths has been reduced in the fifteen years they have had their health department from 39 to 7. This reduction has been gradual, it has been done by the physicians of the county, they have treated every single case, there has not been a case sent to a sanitarium from Scott county in that time. The patients have been put on either

porches or in little shacks that have been built in the yard; they have been built in the poorest of tenant homes by the Rotary, Kiwanis and Women's Clubs in Georgetown or by the Farmers' Union or some other organization with which the Health Department has cooperated.

The family physician or the neighborhood physician has attended to the medical treatment of every case. Every case has been seen by a nurse from the Health Department, who has carried out the instructions of the family physician in helping to educate the family as to the things they should do.

The whole of Scott County has become conscious of the problem of tuberculosis and has largely solved it. In a short time that county probably will be among the first in the United States to be free of the disease. They are continuing the work they are doing. It is being done by the family physician in Scott County entirely.

There is no question but that the greatest advance that has been made in surgery recently has been made in the surgery of tuberculosis. There are many of these cases that in the early stages require collapse. Many of those that are collapsed in the early stages require refills from time to time, and it is our purpose as rapidly as the physicians of the state are ready and willing to qualify themselves to do this work, to establish refilling stations with the practitioners in the various parts of the state who are willing to undertake it.

We are delighted to have you come to the state tuberculosis sanitarium at any time. We would like for you to come and stay a week or ten days or two weeks. Any time you have x-rays of your patients who are not able to pay for the consultation, we are glad to have you send them to Dr. Turner and he will be glad to write to you. It is interesting that he is getting from ten to as many as twenty-five a day from the doctors of the state. These are matters of tremendous interest. We are glad to help in this problem. Those consultations are not given to people who are able to pay, for obvious reasons, for there are physicians doing this work who ought to receive the fees for the consultation, but when your patients are not able to pay the fee we are glad to be in a position to help with the diagnosis.

The class of patients that we can take in a sanitarium with only seventy-two beds are necessarily the incipient cases, cases that can be benefited by sanitarium treatment. It is an idle thing to attempt to use political means or anything else to get these old chronics in there who are going to live two or three years, who are going to be useless after they get well, or a little more so after they die. The state can have no possible economic interest in that class of cases. From the humanitarian standpoint we would like to have a three or four thousand bed institution that would care for them all as they should be cared for, but that is manifestly economically impossible and there is no possible hope for doing that thing.

Paul Turner, Hazelwood, Louisville: Dr. McCormack took the words out of my mouth. I wanted to tell you what we are prepared to do at the Sanitarium, and maybe I can add a little to what he said. We are interested, of course, in having the problem taken care of in the home as far as possible. Dr. Edwards has given you a splendid description, dismal though it is, of what occurs. I don't suppose anyone realizes better than you men how terribly hard it is to take care of the tuberculous individual in the home.

Several months ago there was an article in one of our popular journals saying that now we had pneumothorax treatment there was no further need of sanatoria, that we could take care of all of these individuals in the home by giving them the pneumothorax treatment. Last May the American Sanatorium Association passed a resolution to the effect that even though the pneumothorax treatment in many cases is very efficacious, nevertheless it by no means takes the place of sanatorium care. That is true, of course, and as Dr. Alexander said, the treatment in the home should approximate as far as possible the sanatorium care.

What we are trying to do at Hazelwood is to take in cases that have a reasonable hope of recovery, even beyond the incipient cases to which Dr. McCormack referred. By that I mean cases that we can treat with artificial pneumothorax or can get on the road to recovery by a phrenic neurectomy so they can be sent back to you physicians and you can continue the treatment. We must have among you men who are doing practice among the country people, individuals who can continue to give the pneumothorax treatment. It is utterly impossible for us to do it in the sanatorium. We have from twelve to fifteen cases a day, and Dr. Gernert and I just cannot do as many as we will have to do. As they will increase tremendously it is going to be far over our heads and we have got to have your help.

There are men all over the state who have taken up pneumothorax treatment. I will be only too glad to do as I have done for numbers of men who come from all over the state, and take you specially, day after day, as long as is necessary to show you how this is done. It does not require expensive apparatus. After the treatment is started it is very easy to continue it, and instead of having your patient stay in bed and having eventually to sign a death cer-

tificate, you are going to have a patient who is able to carry on his work, and you will continue to have your patient; not only that, but the minimum charge in private practice for the pneumothorax treatment is $5.00 a refill.

You don't have to have a manufactured apparatus. The first pneumothorax apparatus that I used in 1911 before they made any was a home-made affair, and we used it particularly to stop hemorrhages. That is one thing that you can do very efficiently—stop a hemorrhage with introduction of air into the pleural cavity. I do not hesitate to say that you cannot stop it any other way. If it stops itself, well and good. All these other remedies that have been recommended over the last twenty-five years are utterly worthless in my experience.

All you need is a couple of bottles with wide tops. You put in a stopper with a couple of holes so there is an air vent here (illustrating on blackboard), and this bottle is filled with water halfway; so is this one. We also have, with the double stopper here, another opening. This is a rubber tube in the middle going from one bottle to the other. This double stopper is connected with a water manometer. You can do that by bending an ordinary tube of glass. We have a couple of stopcocks there. Here is a tube, and at the end of it there is a needle. Here we have two bottles half full of water with a tube connecting them, a little water manometer, and at the end of this another tube connected to a needle. When you raise this bottle the water comes into this other bottle and mechanically forces out the air through the tube. This cock being closed of course it doesn't go into the manometer; it just goes through the tube, through the needle which is introduced into the pleural cavity.

Anybody can rig up an apparatus like that. You don't have to pay $50 or $60 or $75 for the outfit. You can do it yourself, particularly if you are faced by an emergency. If you have an early case of tuberculosis that is bleeding badly, 200 or 300 c.c. of air usually promptly stops the hemorrhage, provided you get the air into the pleural cavity. It is easy to do and I hope a lot of you will use it.

George P. Sprague: I do not treat tuberculosis, but forty-five years of experience in the practice of medicine has brought me in contact with some problems of this ubiquitous disease. There are two or three points that I believe are interesting in the treatment of tuberculosis in private homes that have not been emphasized. A patient who came to me several years ago illustrates, I think, all of these points. He was plainly emaciated and suggested tuberculosis upon admission. I asked him to strip to the waist. He objected and said that I was the seventh doctor who had examined him since he had been sick and no one else had had him strip. I questioned him and found that I was the only one of the seven who had examined him in the back of his chest, the first one who had stripped him, and that one or two of the previous six had examined him and made their diagnosis through his vest and two shirts, one of them I think, through his coat and none of them, according to his own admission, had told him that he had tuberculosis. He had large cavities and there was no question whatever of his having an advanced pulmonary tuberculosis.

He illustrates three other points that I do not think have been emphasized enough today. One is to make a frank, complete, careful examination of your patient. That should not need mentioning, but it evidently has been very greatly in need of mentioning and of doing. Secondly, there may be exceptions where it is not judicious to tell your patients frankly and openly the first time that he has tuberculosis, but most cases can be and should be told so that forewarned is forearmed and he can understand the seriousness of the situation. Third is regarding the emaciation. I treat many emaciated patients and I presume they are told, just as emaciated tuberculous patients are, to eat more and to drink milk. It is right to say drink milk, it is what they ought to do, but that usually means three or four or five glasses of milk a day. I have fed and weighed daily or weekly many patients who were emaciated, and have found that twelve glasses of milk plus ten or twelve eggs is the least that will enable an emaciated patient to stop losing and to gain weight upon.

J. E. Edwards, (In closing): I wish to thank the doctors for their discussion and to thank Dr. Turner for his explanation about visiting the sanatorium. I went over and spent a part of a morning with Dr. Murray at the Julius Marks Sanatorium at Lexington, and I know that he would be glad to have any physician who is near enough to go and spend a week or several days with him at this institution. I am sure that Dr. Miller and Dr. Turner will be glad for any of us to spend a few days with them. I am sure that these would be very profitable days for most of us.

Unidentified Parasite in Heart Muscle.—During the routine study of the muscle of the heart from a case of aortic stenosis and insufficiency, Von Glahn discovered, at necropsy, peculiar solid bodies within the sarcoplasm of the hypertrophied heart muscle. The end of the body adjacent to the nucleus was rounded bluntly; the other end was pointed.

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NEXT MEETING LOUISVILLE

COUNTY SOCIETY REPORTS

Harrison: The Harrison County Medical Society held its regular monthly meeting at the Harrison Memorial Hospital February 4, 1935.

Members present were Drs. McNeeley, Swinford, Midden, Rees, Alexander, Wyles, Moody, Wells, N. W. Moore, Blount, Smiser, Martin, W. B. Moore and McDowell, Drs. John W. Scott and Douglas Scott, Lexington, Drs. Charles Daugherty and Hart, Paris.

The meeting was called to order by the president, Dr. H. Todd Smiser. The minutes of the last meeting were approved as read.

Dr. W. B. Moore reported a case of Lobar Pneumonia followed three weeks after crisis by phlebitis of the left leg. This case was discussed by Dr. Scott.

Dr. J. P. Wyles reported several cases of scarlet fever treated with serum with excellent results. This was discussed by Drs. Daughterty and Scott.

Dr. John W. Scott of Lexington read a paper on Lobar Pneumonia. Discussion opened by Dr. M. J. Rees followed by Dr. Daughterty, Dr. Wyles, Dr. Douglas Scott, and discussion was closed by Dr. John W. Scott. Meeting adjourned

W. B. MOORE, Secretary.

Cumberland: The Cumberland County Medical Society held its regular March annual meeting, March 5th, 1935, in the office of Dr. J. E. Bow. The meeting was called to order by the president, Dr. J. E. Bow. The reading of the minutes for the previous meeting was omitted. On motion and the call for election of officers for 1935, resulted as follows:

J. E. Bow, president; J. R. Webb, vice-president; W. F. Owsley, secretary and treasurer.

Delegate to State Meeting, H. G. Davis, Marrowbone; Alternate, J. G. Talbott, J. E. Bow, J. R. Webb, W. F. Owsley.

We have five doctors in Cumberland County, all of whom are members of the County and State Medical Society.

Short talks were made by those present and the meeting adjourned.

WILLIAM FAYETTE OWSLEY, Secretary.

Grant:. The Grant County Medical Society met at the office of the Health Department on March 30, with the following members present: Doctors J. W. Abernathy, C. D. O'Hara, G. M. Eckler, R. E. Kinsey, N. H. Ellis, J. D. George, J. T. Davis, A. D. Blaine, C. A. Eckler, and J. J. Marshall, president, in the chair.

In the temporary absence of the secretary, the reading of the minutes was dispensed with and the regular topic of the evening, Pneumonias, was open for discussion. Doctor J. D. Davis of Corinth opened the discussion which

was very interesting. He took up the types of Lobar Pneumonia, discussed them at length, and cited that deaths were more frequent after ten year of age and increasing with each decade. Mortality greater in hospitals due to the class of cases they have; climate is a large contributing factor in the disease. The on-set is usually sudden with a high temperature. Serums are used in hospitals a great deal. He mentions Empyema as a common complication, and invasion of a blood stream, etc. And in all, he introduced the subject masterfully and to the point.

Dr. Abernathy talked of the pain in the side, being hard to control. He gives a calomel purge in the start. Plenty of fresh air and morphine for the pain.

Dr. Kinsey says treatment is symptomatic. Very little medicine, morphine as a sedative, digitalis in small doses from the beginning. Cites frequent errors in diagnoses of children, sometimes abdomens have been opened in error.

Dr. George's treatment differs from the ordinary, in hrs line. He uses aconite and veratrum in the first stage; in the second stage he uses bryonia and opiate; if necessary tarter emetic, ammonium carbonate and chloride to liquify mucus, gives strychnine and digitalis.

Dr. O'Hara says that some seasons most all get well and other season most all die. Not difficult to diagnose. The history given by the family is pathognomic. Pain in the side, bloody sputum. No other conditions present such symptoms. The key to every case is the heart. He uses no stimulants until the heart shows signs of faltering, then uses digitalis, fresh air, quiet, light diet, soups, broths, orange juice, and cotton jacket.

Dr. Ellis brought in some statistics to show the increase of pneumonias.

Dr. C. M. Eckler brought out some interesting points in his practice and talked at length on the subject.

Dr. Marshall reports two cases this winter. One of lobar pneumonia in a child of five years in which the fall of temperature was gradual by lysis and not a sudden drop by crisis. He talked of deliriums in pneumonia; one especially, leaving his bed and running out in the yard.

Dr. Davis closed the discussion and brought out some interesting features that had not been touched upon, and we all felt that we had had a wonderful meeting, and while not all together agreeing with each other, we learned a great deal by discussing our differences.

The program for next time will be a lecture by a Cincinnati specialist on diseases of the thyroid gland. We are looking forward to an interesting meeting on this all important subject.

We adjourned to meet at the usual time in April.

C. A. ECKLER, Secretary.

Grant: The Grant County Medical Society met at the office of the Health Department at the usual hour, 7:30 p. m.

Dr. J. J. Marshall, president, presided and the following members were present: Doctors George, Price, Davis, Blaine, Kinsey, Abernathy, Ellis, C. M. Eckler, and C. A. Eckler. The guests present were: Dr. Joseph D. Heinman and Dr. P. M. Bein of Cincinnati, Ohio, and Dr. Bedinger from Walton.

Dr. Heiman read a most excellent paper on Uterine Bleeding; this paper was clear, to the point, and up to date in every particular. The Doctor left very little to be brought out in discussion, as his paper covered completely every detail. It was enjoyed hugely by all members present and we invite Doctor Heiman to again visit us at some future date.

Dr. A. D. Blaine presented an interesting heart case to the society, in a little boy four years of age, with an extremely slow pulse, 24 per minute; this case was diagnosed by Dr. Bernard Schwartz, a heart specialist of Cincinnati, Ohio, to be a case of congenital heart block. This case was a very rare one and extremely interesting and we thank Dr. Blaine for his presentation of this case to our society.

There was a motion made and seconded by this society that the president be instructed to write Dr. Charles Hibbitt, of the Entrance Committee, which has charge of admitting students to the study of medicine in Louisville Medical College, recommending Gerald P. Eckler, son of Dr. C. A. Eckler, to be admitted in the Freshman class next September.

There being nothing further, we adjourned to meet next month at the usual time and place.

J. J. MARSHALL, President.
C. A. ECKLER, Secretary.

NEWS ITEMS

The Academy of Physical Medicine will hold its annual meeting, June 12 and 13, at the Claridge Hotel, Atlantic City, New Jersey. For further information address Arthur H. Ring, M. D., Secretary-Treasurer, Arlington, Mass.

The library of the University of Kentucky would like to secure a complete file of the Journal. Please send any back numbers that you have to Dr. J. S. Chambers, care University of Kentucky, Lexington, Ky.

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It is our purpose to publish in this journal every month the facts about some phase of canned food knowledge. We would like to summarize for your convenience the conclusions which authorities in nutritional research have reached.

And here we ask your help. On this page are listed a few suggested subjects. Will you check the ones that you would be interested to read, and write in others that may occur to you? Then simply cut out the bottom part of the page and mail it to us.

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☐ Conservation of Vitamins in the Canning Process.

☐ Canned Foods in the Diet of Children.

☐ The Tin Container.

☐ Canned Foods and the Public Health.

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Published Monthly by the Kentucky State Medical Association Under the Supervision of the Council

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Editorial and Business Offices, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents.
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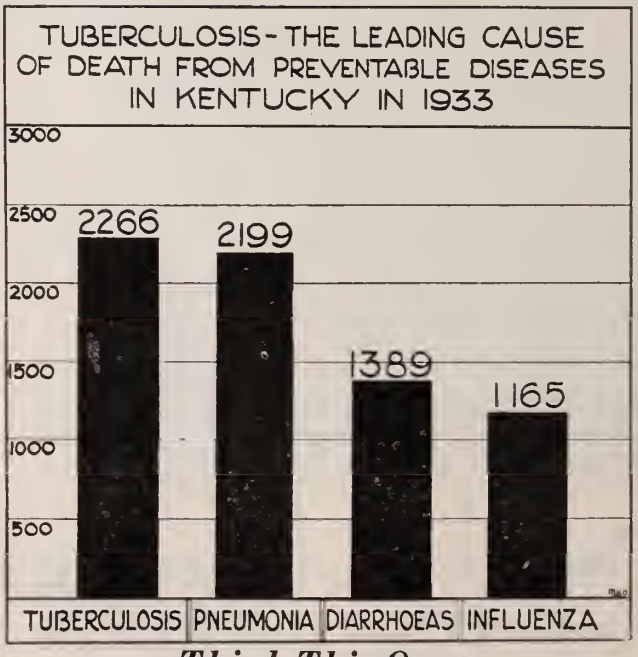
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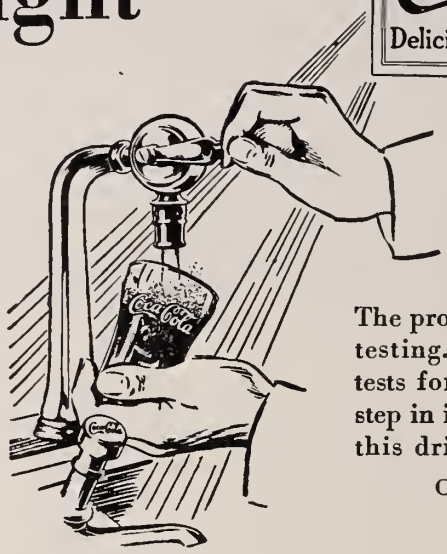
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Allen	A. O. Miller	Petroleum	June 26
Anderson	J. B. Lyon	Lawrenceburg	June 3
Ballard	F. H. Russell	Wickliffe	June 11
Barren	Paul S. York	Glasgow	June 19
Bath	H. S. Gilmore	Owingsville	June 10
Bell	R. F. Porter	Middlesboro	June 14
Boone	R. E. Ryle	Walton	June 19
Bourbon	W. B. Hopkins	Paris	June 20
Boyd	R. G. Culley	Ashland	June 4
Boyle	P. C. Sanders	Danville	June 11
Bracken	J. M. Stevenson	Brooksville	June 3
Breathitt	Frank K. Sewell	Jackson	June 18
Breckinridge	J. E. Kincheloe	Hardinsburg	June 13
Bullitt	S. H. Ridgeway	Shepherdsville	June —
Butler	G. E. Embry	Morgantown	June 5
Caldwell	W. L. Cash	Princeton	June 4
Calloway	W. H. Graves	Murray	June 6
Campbell-Kenton	Luther Bach	Bellevue	June 6-20
Carlisle	J. F. Dunn	Arlington	June 4
Carroll	J. M. Ryan	Carrollton	June —
Carter	W. S. Hawn	Grayson	June 11
Casey	Wm. J. Sweeney	Liberty	June 27
Christian	M. A. Gilmore	Hopkinsville	June 18
Clark	R. E. Strode	Winchester	June 21
Clay	J. L. Anderson	Manchester	June 11
Clinton	S. F. Stephenson	Albany	June 15
Crittendon	C. G. Moreland	Marion	June 10
Cumberland	W. F. Owsley	Burkesville	June 5
Daviess	I. A. Thorpe	Owensboro	June 11-25
Elliott	W. H. Joyner, Act. Sec.	Sandy Hook	
Estill	Walter Cox	Irvine	June 12
Fayette	John Harvey	Lexington	June 11
Fleming	C. W. Christine	Flemingsburg	June 12
Floyd	J. G. Archer	Allen	June 26
Franklin	W. S. Snyder, Jr.	Frankfort	June 6
Fulton	J. C. Morrison	Hickman	June 12
Gallatin	J. M. Stallard	Sparta	June 20
Garrard	J. E. Edwards	Lancaster	June 20
Grant	C. A. Eckler	Dry Ridge	June 19
Graves	H. H. Hunt	Mayfield	June 4
Grayson	C. F. Blankenship	Leitchfield	June 27
Green	S. J. Simmons	Greensburg	June 3
Greenup	C. W. Monroe	Greenup	June 14
Hancock	F. M. Griffin	Hawesville	June 3
Hardin	D. E. McClure	Elizabethtown	June 13
Harlan	W. R. Parke	Harlan	June 15
Harrison	W. B. Moore	Cynthiana	June 3
Hart	S. F. Richardson	Munfordville	June 4
Henderson	Walter O'Nan	Henderson	June 10-24
Henry	Owen Carroll	New Castle	June 24
Hickman	Chas. Hunt	Clinton	June 6
Hopkins	David L. Salman	Madisonville	June 6
Jackson			June 1
Jefferson	Uly H. Smith	Louisville	June 3-17
Jessamine	J. A. VanArsdall	Nicholasville	June 20
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Letcher	R. Dow Collins	Whitesburg	June 25
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McCreary	R. M. Smith	Stearns	June 3
McLean	G. L. Thompson	Calhoun	June 13
Madison	Lewis C. Coleman	Richmond	June 20

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Marion	W. A. Resteen	Lebanon	June 18
Marshall	S. L. Henson	Benton	June 19
Mason	Allen F. Murphy	Maysville	June 12
Meade	A. A. Baxter	Brandenburg	June 27
Menefee	E. T. Riley	Frenchburg	June —
Mercer	J. Tom Price	Harrodsburg	June 11
Metcalfe	P. W. Bushong	Edmonton	June 4
Monroe	E. S. Dunham	Tompkinsville	June —
Montgomery	D. H. Bush	Mt. Sterling	June 11
Morgan	W. H. Wheeler	Betsy Sayne	June —
Muhlenberg	G. L. Simpson	Greenville	June 11
Nelson	R. H. Greenwell	Bardstown	June 19
Nicholas	T. P. Scott	Carlisle	June 17
Ohio	Oscar Allen	McHenry	June 5
Oldham	S. J. Smock	LaGrange	June 4
Owen	K. S. McBee	Owenton	June 6
Owsley	D. E. Wilder	Booneville	June 3
Pendleton	W. A. McKenney	Falmouth	June 12
Perry	R. L. Collins	Hazard	June 10
Pike	M. D. Flanary	Pikeville	June 3
Powell	W. Johnson	Stanton	June 3
Pulaski	M. C. Spradlin	Somerset	June 13
Robertson			June 17
Rockcastle	Lee Chestnut	Mount Vernon	June 13
Rowan	A. W. Adkins	Morehead	June 10
Russell	J. B. Scholl	Jabez	June 10
Scott	F. W. Caudill	Georgetown	June 6
Shelby	W. E. Morris	Shelbyville	June 20
Simpson	N. C. Witt	Franklin	June 11
Spencer			June 6
Taylor	W. B. Atkinson	Campbellsville	June 5
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Trimble	J. J. Gerkins	Bedford	June 26
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Warren	Hal Neal	Bowling Green	June 19
Washington	J. H. Hopper	Willisburg	June 6
Wayne	R. E. Teague	Monticello	June 28
Webster	C. M. Smith	Dixon	June —
Whitley	C. A. Moss	Williamsburg	June 3
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BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. 33 NO. 6 BOWLING GREEN, KY. JUNE, 1935

COLLEGE OF SURGEONS

Dr. Thomas F. Duhigg, Lieut. Commander, U. S. Navy, who has been stationed in Louisville for the last several years, and who was so successful in organizing the Naval Reserve Units here, has recently been stationed in New York, where he will have the same duties.

Dr. Duhigg has written the Journal a most interesting letter about the recent meeting of the American College of Physicians in Philadelphia. He was especially delighted at the election of Dr. Bradley, as President-Elect, and of the election of Dr. Chauncey Dowden, who is a Councilor of the State Medical Association, and of the Southern Medical Association, as a member of the board of Governors of the American College of Physicians.

He reports that in addition to Drs. Bradley and Dowden, Drs. Oscar Miller, Overstreet. Gernert, Simmons, Morse, Gott, Virgil Simpson, Flexner, McCarty, and Frank Stites, were present from Louisville, and took prominent parts in the proceedings.

Dr. Duhigg will be remembered pleasantly by his friends in Kentucky.

USEFUL DRUGS

The JOURNAL has received from the American Medical Association the Ninth Edition of its little book on useful drugs, which provides a list of drugs selected to supply the demand for a less extensive materia medica, with a brief description of their action, usage and dosage.

This excellent little compendium is prepared under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association. It is a real effort in behalf of rational therapeutics. Drugs which have become obsolete have been deleted, while others whose value has become established have been added. The statement of action, usage and dosage of the various drugs have been revised after discussion by the whole Council. They represent the latest and best results of therapeutics and pharmacologic knowledge. Individual descriptions show evidence of careful editing. This is a real contribution on the part of the American Medical Association in the promotion of the rational use of drugs.

This little book can be secured from the American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

KENTUCKY HONORED

In the selection of Dr. Ernest B. Bradley, of Lexington, as its President-Elect, the American College of Physicians has honored Kentucky as well as itself.

It is difficult to say anything about a physician who is so universally loved by his associates as is Dr. Bradley and seem to preserve proper constraint. As a man, a physician, a citizen, an official, a friend—there is no quality omitted from his make-up that makes him admirable.

The American College of Physicians is one of the most distinguished groups which devotes itself to the purely scientific phases of medicine. Its Presidents have each been outstanding as representative of all that is best in American medicine. His myriad of friends in Kentucky know that Dr. Bradley's name will add luster even to this illustrious list.

TUBERCULOSIS

"The Bacillus is not yet all of Tuberculosis." These words expressed the thought of a great student of Tuberculosis. They are also applicable to our present day interpretations and teachings of this disease.

It has long been recognized that a group of individuals exposed to infection would not all react in the same way.

That exposure to infection is essential is universally accepted, but we recognize the fact that other factors play an important part in the battle the human body wages against disease.

As our social life becomes more complicated, we are realizing this truth is applicable to Tuberculosis. We are also realizing the impossibility of controlling Tuberculosis without the thorough understanding and the hearty cooperation of the practicing physician. There is no field of medical endeavor able to yield greater dividends to the family

physician who knows and applies modern methods in Tuberculosis prevention and control.

Tuberculosis is a "family disease." Childhood is the seeding time. The family physician is indispensable in any successful Tuberculosis control program.

Truly, "The Bacillus is not yet all of Tuberculosis."

DISTRICT MEETING

Railroad Surgeons of Kentucky, Virginia and Tennessee will meet at Appalachia, Virginia, on Wednesday, June 26th, under the Presidency of Dr. B. F. Robinson, of Lexington. This is a very important meeting and it is hoped it will be largely attended. Physicians who desire to attend can get reservations by writing to Dr. Robinson.

RAILROAD RATES TO THE A. M. A.

A reduced rate of $39.24 round trip has been secured on the certificate plan to Atlantic City over the L. & N.

Excellent service is available as follows:

Leave Louisville, 11:35 A. M. CT, and 5:00 P. M. CT.

Arrive No. Philadelphia, 6:28 A. M. ET, and 4:04 P. M. ET.

Leave No. Philadelphia 8:05 A. M and 4:40 P. M.

Arrive Atlantic City 9:15 A. M. and 5:50 P. M.

The 11:35 A. M. train offers a through air-conditioned sleeper to Philadelphia. The 5:00 P. M. train offers an air-conditioned sleeper from Cincinnati to Philadelphia. If there are as many as ten to make the trip together using either train, a through sleeper will be arranged. Returning the following service is available:

Leave Atlantic City 3:30 P. M. ET and 7:55 P. M. ET.

Arrive No. Philadelphia 4:46 P. M. and 9:09 P. M.

Leave No. Philadelphia 5:26 P. M. and 12:32 P. M.

Arrive Louisville 11:15 A. M. CT and 9:35 P. M. CT.

The busines manager of the Journal will make reservations, deliver the tickets, and supply any additional information.

Pullman rates are $8.75 lower berth, $7.15 upper to Atlantic City.

OFFICIAL ANNOUNCEMENTS

PRELIMINARY PROGRAM

The following is the tentative subject program for the State Meeting in September:

1. Presentation of Clinical Cases.

2. Evaluation of the Newer Methods in Handling Pulmonary Tuberculosis.

3. Indications and Contra-Indications for Blood Transfusions.

4. Coronary Thrombosis: Differential Diagnosis with Note on Angina Abdominis.

5. Symposium on Obstetrics—
 a. Obstetrical Analgesia and Anesthesia.
 b. Resuscitation of the New-Born
 c. Post-Puerperal Treatment.
 d. Use and Abuse of Pituitrin.

6. Emergency Management of Fractures.

7. Clinico-Pathological Conference.

8. Recent Advances in the Treatment of Syphilis.

9. Pediatric Therapeutics.

10. Ocular Manifestation of Systemic Diseases.

11. Discussion of Contract Practice.

12. Recent Trends in the Treatment of Pyelitis.

13. Treatment of Oral Infections from the Standpoint of the Dentist.

14. Social Trends in Medicine.

15. Oto-laryngology for the General Practitioner.

16. Diet in Disease.

17. Evaluation of Various Disinfectants and Antiseptics in the Preparation of the Skin for Surgery.

18. Modern Management of Tumors of the Breast.

Since this is only a tentative subject program voluntary suggestions will be welcomed. Please do not hesitate to write immediately to the Chairman of the Program Committee: Dr. Emmet F. Horine, Breslin Medical Building, Louisville, concerning any thing you may desire to have presented. The Committee is anxious to have a program not only representing important phases of medicine and surgery but also participated in by members from various sections of the state. Your assistance will be appreciated.

ORIGINAL ARTICLES

PRACTICAL APPLICATION OF OUR PRESENT KNOWLEDGE OF TUBERCULOSIS PARTICULARLY AS IT APPLIES TO CHILDREN*

LEWIS C. COLEMAN, M. D.

Richmond

Any physician who so desires and has the time, patience and ambition may have at his disposal an abundance of literature on the subject of tuberculosis. Much of this literature is so technical that we, as practicing physicians, have little to gain by consuming it. We are particularly interested in the practical application of what is known about tuberculosis and for that reason will only consider the technical and pathological aspects of the subject from the viewpoint "how can we apply such knowledge to increase the value of our services in every day practice in the rural communities in which we are located without the facilities of modern sanitoriums and expert clinicians who devote their entire time to tuberculosis."

All of us realize that tuberculosis is one of the leading causes of death in our own community and all of us readily recognize the disease in its later manifestations when unfortunately it is too late to do anything about it, but we do not seem to recognize the seriousness of the disease to the extent that we are constantly and continuously looking for the early manifestations of this all important disease in our every day run of patients. Possibly one of the best services we could render our every patient who is not suffering from some perfectly obvious disease would be to assume at least to ourselves that he has tuberculosis until we prove that he hasn't. Let's briefly consider the pathology of tuberculosis in the light of modern teachings and see if there isn't some practical application that we can derive from it.

The tubercle bacillus, the causative agent of tuberculosis, was discovered in 1882 by Robert Koch. Since that time we have found that there are three types of tubercle bacilli—human, bovine and avian, the latter having very little to do with human infection. Undoubtedly, the human type is the most important we have to contend with. It is well established that the bovine type has a very important role in causing tuberculosis particularly in children and probably would have had a much more important role as the consumption of milk and other dairy products has increased in the past few decades had it not been for the advent of pasteurization of these products which practically eliminates infection from this source. This, however, does not apply to our rural community where pasteurization is far from general.

The fact that inheritance plays no important part in tuberculosis is proven when newborn babies of tuberculous parents are immediately removed from contact with the disease and remain free of tuberculosis. Therefore, we are safe in concluding that children are born free of tuberculosis and in order to contract the disease must be exposed directly or indirectly to some person or animal who has the disease and acting as a carrier or spreader of the bacilli.

Tubercle bacilli almost always gain entrance to the child's body through the digestive or respiratory tract. In either event, we are taught that they are engulfed by the polymorphonuclear leukocytes which carry them in the lymph and blood streams. When these leukocytes become sluggish in their movements in the blood stream due to the contained organisms they are unable to pass through the fine capillaries and become lodged in various parts of the body, thus giving rise to tubercle formation in any part of the body but most often in the parts most richly supplied with capillaries of which the lung is an excellent example. This then, in all probability, explains the frequency of pulmonary tuberculosis over tuberculosis of other parts of the body.

This lodgement of white blood cells containing tubercle bacilli in the fine capillaries gives rise to the primary focus of tuberculosis which actually consists of a group or cluster of cells around the original cells containing the organisms. This grouping of cells around the primary focus is the natural defense of the body to encapsulate the bacilli. Around the focus may be considerable infiltration which is in reality a localized patch of tuberculous bronchopneumonia. Bacilli may escape this primary focus before complete encapsulation and are carried to regional lymph nodes and hence the development of tuberculous processes in these nodes. These primary foci may be multiple. They may completely heal with calcium salts being laid down in them or they may allow the multiplication of the bacilli enclosed.

Here then, in this primary focus we have the primary type or first infection type

*Read before the Estill County Medical Society, Irvine, April 10, 1935.

of pulmonary tuberculosis which is entirely different from the second re-infection or adult type of the disease. While this primary focus is developing, the tissues of the body become sensitive to the protein of the tubercle bacilli (tuberculoprotein) which we speak of as allergy.

This allergy or sensitiveness that is produced in the body by the first infection gives rise to an entirely different situation when the body is re-infected either as a result of the escape of bacilli from these primary foci (endogenous source of re-infection) or re-infection through the respiratory or digestive tracts (exogenous sources).

Upon re-infection there is an acute reaction to the bacilli wherever they find lodgement and this acute reaction of the leukocytic exudate fixes the bacilli wherever they lodge and they then produce the destructive chronic form of the disease, which is characterized by proliferation of local connective tissue cells and necrosis which may and often does lead to cavitation. We are now taught that the acute forms of tuberculosis as miliary TB and meningitis is the re-infection type of the disease in allergic tissues which converts the heretofore comparatively harmless protein of the tubercle bacilli into a virulent poison.

As has been stated, the re-infection type of tuberculosis is that which goes on to clinical disease and which we readily recognize in its many and various manifestations if somewhat advanced. This re-infection type cannot develop in the absence of the first infection type since it is dependent on the allergy produced by the latter. Hence the importance of recognizing the first infection type of tuberculosis if possible, or at least to recognize the re-infection type in its earliest stages.

Practically speaking, the same signs and symptoms must be searched for to discover the first infection type as are made use of to diagnose clinical tuberculosis in its earliest stages. Let's briefly consider these signs and symptoms not in the light of text book pictures of them, but from our own experiences in eliciting them in these early or beginning cases of tuberculosis.

Speaking generally, there are five avenues of approach in making a positive diagnosis of tuberculosis—namely, history, tuberculin test, X-ray, physical examination and sputum analysis. Each of these must receive the most careful consideration in our efforts to diagnose early tuberculosis. Of these five methods of diagnosing early tuberculosis I think the physical examination and the sputum analysis are the least important.

Tuberculosis must usually be well advanced before any but the most expert can make a positive diagnosis by physical examination and then even the expert would not rely on this examination alone. Therefore, let's not expect anything from our physical examination of patients suspected to have early TB. I think we would do better without it. However, the most significant signs of such an examination are increase in whispered voice and rales persisting after cough.

Of course, a positive sputum is conclusive evidence of tuberculosis but when the tubercle bacilli appear in the sputum the lesions from which they came are large enough so that they are easily visualized on the X-ray film. I do not mean to insinuate that we should not examine the sputum. Certainly in every suspicious case which is at all productive this should be done. In children, since they rarely expectorate, sputum is best collected by introducing a cotton swab on a curved applicator to the posterior pharynx and holding it there during the coughing this produces. A negative sputum does not mean that the patient does not have tuberculosis. In fact, a negative sputum only means that you did not find the organism in that sputum analysis. We rarely get a positive sputum except when cavitation is present, therefore, a negative sputum has nothing to do with ruling out tuberculosis.

The tuberculin test is the most important means of diagnosing tuberculosis infection, particularly on the first infection type. Every positive reactor should be X-rayed.

The tuberculin test is simply a sensitivity (or allergic) test to see if the tissues are sensitive to the protein fraction of the tubercle bacilli. As we have seen earlier in this paper, the tissues become sensitive to this protein very shortly (a few weeks) after the very first infection and remain so except in the rare instances of far advanced TB or in some of the infectious diseases. This test in no way determines activity but if positive simply means that that person has already been infected with the first infection type of tuberculosis. If the test is positive we must then have X-ray films made and search the history, physical examination, etc. of the patient to see if there are any demonstrable lesions. If the test, properly performed, is negative we can rule out tuberculosis except in the instances previously enumerated.

The tuberculin test is best performed by injecting intracutaneously on the inner surface of the forearm 1-10 c. c. of Physiologic Salt Sol. containing 0.1 milligram of

Koch's old tuberculin which is in reality the protein of tubercle bacilli and contains no organisms dead or alive. If this test is negative then we repeat it in one week using a stronger dilution of tuberculin, namely, 1 milligram to 1-10 c. c. The test is interpreted at the end of 48 hours. If at the site of injection after 48 hours there is an area of reaction, consisting of redness and slight edema or induration, the test is positive and is read as 1, 2, 3, or 4 according to the diameter of the reaction. If the diameter is 10 millimeters 1, 10 to 15 mm. 2, more than 15 mm. 3 and if necrosis occurs 4. We can use the human tuberculin on one arm and the bovine on the other in making these tests but since with the rarest exception the bovine infection will give a positive reaction to the human tuberculin test it is necessary to use only the human test in practice. The tuberculin test should be done routinely in every physician's office and positive reactors X-rayed immediately.

The family history and the past history of the patient if properly gone into will almost make the diagnosis by itself, so to speak. When we ask a patient or parent if there is or has been any tuberculosis in the family we must realize that their answer yes or no is far from sufficient. If yes, what contact has the patient had with the case or cases If it was a grandparent, who died before this patient was born, what about the health of the elders of the patient who were in contact with that known case, etc. If the family history is negative that simply means that there is or was no known TB in the family. Then we want to know the cause of the death of the deceased members of the family, what the present condition of those living is and here we must pay particular attention to repeated attacks of flu or pneumonia, blood spitting, etc., in any member of the family.

The past history of the patient is usually very valuable. Is there a history of pneumonia, influenza, measles, whooping cough, etc., all of which are predisposing causes in that they are debilitating diseases and reduce the resistance of the patient. Is there a history of loss of weight? This may be an important symptom but it is a known fact that many cases of active tuberculosis have been discovered in perfectly normal or above normal children so far as their weight is concerned. So let's not let the weight of a patient be misleading. Is there a history of erythema nodosum or phlyctenular conjunctivitis, either of which frequently accompanies tuberculosis in children.

We should not expect to find a history of cough, hemoptysis, expectoration, loss of appetite, loss of weight and endurance except in well advanced tuberculosis. Some of us are prone to use these symptoms as a criterion for tuberculin testing or X-ray films when in reality we do not need a tuberculin test or films to diagnose tuberculosis in a patient presenting such symptoms.

The X-ray film reveals the re-infection type of tuberculosis earlier than any other phase of the examination. However, lesions may be present in a small, slowly developing form, lacking density enough to be seen on X-ray films for a long time after infection first is established. Every positive tuberculin reactor must be X-rayed. The X-ray is undoubtedly the life saver of every physician attempting to make a diagnosis of early tuberculosis.

The scope of this paper and my limited intelligence of the subject do not permit further remarks on X-ray diagnosis of tuberculosis. However, we are fortunate in having in our community excellent X-ray equipment and technicians. I have made the practice of late of attempting to read the films of my patients and then sending them to Louisville to Dr. Turner who gladly reads them for any of us without charge.

Practically always in the later stages and most frequently in the earlier stages of TB the temperature is slightly elevated. Particularly characteristic is the afternoon elevation and the morning remission. Consequently in examining a patient for early TB it is frequently advisable to get the temperature four times daily at the same time the tuberculin test is being made. This can be done and recorded by the patient.

As for treating tuberculosis there is no specific treatment, but the modern methods of treating this disease are very gratifying if faithfully and diligently carried out. Unfortunately, however, we often experience difficulty in getting enough co-operation out of the patients or their families to carry such treatment to its successful conclusion. Dr. H. K. Dunham, professor of tuberculosis at Cincinnati, states that the physician's job is only half done in making a diagnosis of tuberculosis. He must impress the patient and parents with the importance of carrying out the accepted treatment or he has completely fallen down on his job.

The first infection type of tuberculosis needs little treatment other than getting the patient away from contact with the disease and building him up generally with a regular regime and proper dietary measures.

These, however, are oftentimes very serious problems.

The prognosis of the re-infection type is good when discovered early and given adequate care.

We have seen numerous tuberculous children and young adults respond successfully in a few months' time to absolute bed rest, fresh controlled air, education and heliotherapy. A progressive type of the disease should be put at absolute bed rest, including meals served in bed, use of bed pan, limited reading, writing, etc., under as near ideal hygenic home conditions as is possible. Of course, a more favorable climate and sanatorium facilities are sometimes invaluable adjuncts but, in my opinion, if we would spend more time in attempting to discover the cases in their early stages instead of bemoaning the fact that they can't go to a sanitorium and take care of them to the best of our abilities in their home we will go far in the cure of tuberculosis. Of course, all we can do for the far advanced cases is absolute isolation and give them comfort.

When we put a patient to bed we should practicallly isolate him from the rest of the household and certainly we should be sure that the person responsible for the care of the patient is free of clinical tuberculosis. The diet need only be good, wholesome, nourishing food and we must be careful not to push the patients to the point of spoiling any appetite they have. Tonics may be given cautiously to increase the appetite and assist the body in overcoming anemias. Standard cod liver oil in large doses is being used in practically all the leading sanitoriums at present. I have used of late, apparently very successfully both clinically and psychologically, a tonic containing liver extract as well as appetite stimulating drugs. Likewise, I have used a combination of calcium and viosterol with the hope that the increased calcium intake might in some mysterious way aid in calcifying the lesions. Whether it has or not, frankly, I have no idea but the patients have responded unusually well to the whole treatment including these drugs as determined clinically and by X-ray. It is very difficult sometimes to get parents to understand the necessity and importance of absolute bed rest. However, after they have agreed to see that their child carries out the instructions we have outlined the success of the treatment depends largely on the patience of the child and its parents. We should continuously impress them with the importance of the regime, seeing the child at least once a week. We can oftentimes aid the parents by suggesting amusing and entertaining things for the patient. If the case is not too far advanced and according to age the following may be helpful—reading to the child, cutting out paper pictures, coloring pictures with crayons, funny papers, modeling clay, etc. We should, however, see that the child is not allowed to do too fine or tedious work with the hands or eyes for its exhausting effects.

Such measures as lying on the afflicted side most of the time and the use of the shot bag over parts of the chest may be very useful in certain cases and are old stand by measures.

Obviously such annoying and aggravating symptoms as cough, night sweats and insomnia must be taken care of. Codeine in syrup will usually control coughing and atropine will aid in night sweats.

There are several surgical measures used in the treatment of tuberculosis with very good results, such as, excision of the phrenic nerve, thorocoplasty, etc. These measures cannot usually be performed outside of a sanitarium.

The use of artificial pneumothorax or collapse therapy which is collapsing the affected lung by injecting air into the pleural cavity, is the most practical and successful treatment for certain types of cases. Age is no contraindication in artificial pneumothorax. In the less extensive progressive cases and those confined to one lung this procedure is undoubtedly very valuable in addition to the absolute bed rest, etc. Artificial pneumothorax is not especially difficult to perform and if done correctly is usually not unnecessarily uncomfortable to the patient. You will see more and more of this type treatment in the future.

One of the most serious mistakes made in the treatment of tuberculosis in general practice is to conclude that the patient is cured when he has taken on excess weight, feels fine and is anxious to get up. Only after the closest observation as to temperature, weight, color and, the most important, periodic X-ray examinations, should we determine when to terminate the treatment. If it has taken six, twelve or twenty-four months to reach the end of the absolute bed rest the patient should, practically speaking, take the same amount of time in gradually returning to his or her normal activities of life and should be under observation continuously as they are always subjected to a breaking down of the healed lesions or a new re-infection.

To summarize these remarks particularly emphasizing the most practical that we seem so prone to forget or misconstrue:

1. Practically speaking, there is no such thing as inherited tuberculosis.

2. There are two types of tubercle bacilli which cause human tuberculosis—the human and the bovine.

3. We can eradicate the bovine type in our future patients by insisting that they be raised on pasteurized dairy products. A substitute for pasteurization, namely boiling, can be performed in the home if necessary.

4. The tissues of the body become sensitive or allergic to the protein of the T. B. organism after the body has once been infected.

5. The acute forms of T. B. in childhood are an overwhelming re-infection of these allergic tissues.

6. There are five approaches to the positive diagnosis of tuberculosis, namely—the history, the tuberculin test, X-ray films, physical examinations and sputum analysis.

7. The tuberculin test should be done routinely in all physicians' offices on every case where there is the slightest doubt of the diagnosis or slightest possibility of tuberculosis.

8. Every positive reactor to the tuberculin test should be X-rayed.

9. A negative sputum examination means absolutely nothing as to a positive diagnosis being made.

10. The successful treatment of tuberculosis depends on early diagnosis, absolute bed rest, fresh controlled air, diet and education with such special measures as artificial pneumothorax in selected cases.

Achlorhydria.—Hurst states that without gastritis there is no achlorhydria but that gastritis does not cause achlorhydria unless the patient is predisposed by having the hyposthenic gastric constitution. Gastritis in the presence of the hypersthenic gastric constitution may lead to duodenal ulcer and gastric ulcer, and a gastric ulcer may become malignant, but achlorhydria does not develop. It is the conjunction of the apparently trivial causes of gastritis with the hyposthenic gastric constitution which leads to achlorhydria, and the conjunction of these with the constitutional predisposition to cancer which leads to carcinoma of the stomach. It is gastritis which causes achlorhydria, and gastritis, not achlorhydria, which causes Addison's anemia and subacute combined degeneration of the cord and predisposes to carcinoma of the stomach. The prophylaxis of gastritis is the prophylaxis of these diseases. One may therefore look forward to the time when the prevention of gastritis, and, when prevention fails, its early recognition and adequate treatment, will lead to the disappearance of cancer of the stomach.

WHOOPING COUGH*

T. J. Marshall, M. D.

Paducah

Pertussis is one of the most serious diseases that children are prone to. It has been estimated that more than 25,000 children die of this disease each year in the U. S. and in the first two years of life it is the most fatal of any of the communicable diseases of childhood. The mortality varies from 3 to 15 per cent. In this, as has been pointed out, age is a powerful factor, the danger being greater, the younger the child. Weakly or rachitic infants are especially apt to succumb.

The complications and sequelae, such as broncho pneumonia, convulsions, encephalitis and diarrhea are common causes of death, while tuberculosis is not infrequently a cause of death; however, perhaps one half the deaths are due to broncho pneumonia. Asphyxia in severe paroxysms may be the immediate cause of a fatal issue in infancy. Obstinate vomiting may induce a marasmic state, which may be a contributory cause of death.

The first reference to this particular cough forming a distinctive clinical entity is found in the works of De Baillou, a French physician, who was born in Paris in 1538. He has been called the first epidemiologist of modern times. Previous to this man's contribution there is no mention of this disease to be found in the writings of our ancient medical forbears. The distinctive cough seemed not to have attracted attention, or else the disease as we now recognize it, did not exist.

An almost unknown Swedish physician, Nils Rosen Von Rosenstein, in 1766 published a volume of lectures on children's diseases in which he describes the disease well. Since, few modern writers have contributed a great deal until recently, although the disease has received much study and many theories of its causation have been advanced. It was not until 1900 that Bordet and Gengou, two French physicians, first described the bacillus which has since been known as the Bordet-Gengou bacillus or the bacillus pertussis. Six years later, 1906, their full report containing an intensive study was published.

While there still exists in the minds of some investigators a doubt as to the specific cause of this disease, (some claiming it to be a virus) still the pertussis bacillus is ac-

*Read before the Graves County Medical Society.

cepted by a great majority as being the specific etiologic factor in whooping cough. A recent experience of Dr. Sauer in which he grew the organisms, then inoculated some children producing typical whooping cough with the whoop, leukocytosis, etc., seems to clinch the Bordet-Gengou bacillus as being the specific causative agent. Madsen states that "During the first week of the disease the Bordet-Gengou bacillus may be found in the majority of cases (75 to 100 per cent)."

The first week of the disease is the period of greatest danger in spreading the infection. this is during the catarrhal stage and before the diagnosis can be made from clinical symptoms alone; each additional week lessens this danger until as Madsen again states "That patients who have had the characteristic spasmodic cough for five weeks no longer have the bacilli."

From clinical symptoms a diagnosis may not be made until the patient has reached the paroxysmal stage or until the whoop has developed. Many children have persistent coughs during the fall, winter and spring. and pertussis is usually more prevalent during these seasons. It may be extremely difficult to differentiate between a cold, tracheitis, and whooping cough. In pertussis the cough persists, and this may also be true in tracheitis and other infections of the respiratory tract, however, after the characteristic whoop the diagnosis no longer remains in doubt.

If the spread of whooping cough is to be prevented by quarantine and isolation, the diagnosis must be made during the first week, or while the disease is in the catarrhal stage. Early diagnosis is possible only by the so-called cough plate method. Cheivitz and Meyer of the Danish Serum Institute published in 1916 the method used, a culture of potato, water, glycerine and blood is placed in a petri dish and this is held in front of the child's mouth during the cough. On this culture the bacillus grows and is demonstrable within twenty-four hours. This all requires a well trained laboratory technician.

The leukocytes are increased after about the twelfth day with an increase of the lymphocytes. Therefore even if one waits for an increase in the white blood cells to make a diagnosis, there has been plenty of time elapsed for a child with whooping cough to infect a number of non-immunes.

In the past it has been the custom for some doctors to tell the mother that nothing could be done for a child with whooping cough. Dr. Osler's statement that the best treatment was six weeks and a big bottle of paregoric may be responsible for our lack of interest in the treatment of pertussis. The remedies prescribed by grandmothers, such as teas, poultices, and various concoctions have been used. It has been known for a long time that the bromides were of value in controlling the paroxysms and other anti-spasmodics, as atropine, antipyrene, were used with some satisfaction. Not so long ago ether in oil by the rectum was found very efficacious in controlling the paroxysms. About three years ago Epstein of New York stated that the bromides had given him the best results, and he observed that the bivalent bromides, such as strontium and others were more efficacious than the monovalent, such as sodium and potassium. Of the trivalent, lead, arsenic and gold, he tried the bromide of gold, the other two being too poisonous for therapeutic use. and obtained much more satisfactory results. Within a few days the paroxysms are less severe and less often, and the child retains its feedings and sleeps at night.

Pertussis vaccines have recently been revived. For a while vaccines were used with varying reports from over the world. and there has been ample grounds for controversy as to their value; some claiming results as a therapeutic agent, others condemning their use after the disease was established and claiming the time to use the vaccine was after exposure and before symptoms developed. Because of the limited number of cases seen by any one observer, and the lack of proper controls, the results obtained are difficult to evaluate. Madsen was in position to try the vaccine in the 1923-24 epidemic on the Faroe Islands, in which 2094 individuals were vaccinated and 627 were not. The prophylactic effect was nil, but the mortality in the non-vaccinated group was twelve times that in the vaccinated, and the disease in the latter group was much milder and of shorter duration. The results of a second epidemic observed by Madsen on the same islands were more striking. Of 1832 vaccinated individuals, 458 did not contract the disease and there was only one death; while of the 446 not vaccinated only eight escaped pertussis and eight died. The mortality was 30 times greater in the non-vaccinated group, and there were 16 times as many severe cases.

Madsen attributes the favorable results to the fact that the vaccine was made from young strains of the Bordet-Gengou bacillus. The dose was large. 22,000 million bacteria. and that the vaccination was completed shortly before the onset of the epidemic i. e.

at a time when the titer of anti bodies produced by the vaccine is highest.

To Dr. Louis Sauer of Evanston, Ill., belongs the credit not only of being the first to attempt permanent immunity in whooping cough, but also his apparent success. Bacillus pertussis vaccine as used by Sauer is made from recently isolated, strongly hemolytic strains, grown on Bordet- Geugou medium made with freshly defibrinated human blood, each one c. c. contains ten billion bacteria. One c. c. is injected into each arm the first dose, and 1.5 c. c. into each arm the second and third times. The injections are at weekly intervals and a total of 8 c. c. represents the total immunizing dose.

From Dr. Sauer's latest report he has immunized from 1928-1934, 1,380 children. None of the injected children has contracted whooping cough, but in two the disease occurred in the abortive form. He states that 162 of these injected children have been exposed. A total of 6 c.c. has been injected into 370 infants before the 6th week, five were exposed to pertussis and four had the disease in mild form, one escaped.

The best period for immunization is between the eighth month and the third year it is thought. According to Sauer the ideal immunization plan is to vaccinate against pertussis at the 8th month, and against diphtheria at the 12th month. It takes four months after the injections for immunity to be established, and it is now thought that four months should elapse after pertussis immunization before other immunizations are given and that pertussis immunization should not follow other immunizations until several months have passed.

Huenekins summarizes the whooping cough situation as follows: "That the evidence presented warrants a clinical trial of Sauers method of permanent immunization against pertussis. If a child has not been immunized and is exposed to the disease, he should receive pertussis vaccine between the time of exposure, and the onset of symptoms in an attempt to prevent whooping cough, but in any case to decrease the severity and reduce its mortality."

We now have small pox and diphtheria where it may be entirely eliminated from civilization, provided the people take advantage of the present medical knowledge, and perhaps another has been added.

THE PRESENT STATUS OF WHOOPING COUGH*

A. A. Shapero, M. D.

Louisville

Whooping cough has been described as a distinct disease for several centuries. It was probably unknown to the Greek, Roman and Arabian physicians as their writings do not describe such a typical affection. We owe to De Baillou, the first accurate description of a whooping cough epidemic which occurred in Paris during 1578. Willis (1865), Sydenham (1670) and others recognized whooping cough and differentiated it from other diseases symptomologically related. In 1695, thousands of children died during an epidemic in Rome and Paris. It first appeared in 1724 in Germany. In 1732, during a widespread European epidemic, it was introduced to America. It was carried to the Australian continent only 45 years ago. Asia, Africa, and Central America are comparatively free of this disease. Whooping cough is common to all regions of the earth. Its spread to virgin soil, (where it assumed a more virulent nature) was due to travellers.

Whooping cough is a highly contagious endemic and epidemic disease primarily affecting infants and children and especially the female sex. It usually confers a lasting immunity, a recurrence being rare except infrequently in adults having had whooping cough during childhood. The incubation period lasts one or two weeks, rarely as long as three weeks. Lawson found the average catarrhal period in 1,564 cases to be about 11 days. The symptoms during this period are those resembling a mild cold, such as a slight nasal discharge, catarrhal inflammation of the respiratory tract, malaise, slight elevation of temperature, a cough progressively becoming worse at night and which is usually out of proportion to the other clinical findings. Following exposure, a safe rule to follow is that if no catarrhal symptoms develop within 18 days, the child has escaped infection. It is during this unsuspected period that the degree of infectivity is greatest. The younger the individual the greater are the chances of contracting whooping cough following exposure. In a recent survey Kelly found approximately 50 per cent of the exposed children to contract Pertussis.

The spasmodic stage lasts three to six weeks during which time the patient has

*Read before the Jefferson County Medical Society.

numerous paroxysmal attacks which occur every few hours and are worse at night in the recumbent position. They experience a sense of suffocation, grasp any object within reach for support, and after a series of barking coughs, take a long deep inspiration or whoop. Emesis often follows the paroxysm and is due to the associated pneumogastric stimulation. The paroxysmal cough-whoop phenomena is undoubtedly a neuromuscular complex due to the marked sensitivity and constant irritation of the larynx, trachea and bronchi where the Bordet Gengou bacilli lodge between the cilia. The whoop may be absent in a small percent of the cases. It is from the typical whoop that this disease derived its name. The whoop may disappear at the onset of a pneumonia or when another infection develops as scarlet fever. Adults do not whoop as often or severe as children, which might be due to an anatomical difference in the larynx.

The cough diminishes in number and severity during the stage of decline which usually lasts about a month. A cold or recurrent bronchitis often causes the return of the paroxysmal cough—whoop complex after it has completely stopped for one or two years. These cases are often considered as relapses or recurrences which is not true as they do not harbor the bacilli nor are they infectious.

In 1906, Bordet and Gengou discovered the bacillus which causes whooping cough. It is a small ovid gram negative cocco-bacillus, possessing a capsule and is frequently paired like pneumococcus. On culture media they appear after 48 to 72 hours of incubation as small droplets of mercury, resembling glistening pearls 0.5 mm. across. A hemolytic zone surrounding the colony later develops. On cultivation Bordet first showed the organism to change its characteristics depending on the number of successive transplants and the type of media used. Leslie and Gardner found this organism a uniform species without fixed types and that all strains fall into four phases. Phases one and two are smooth and toxic to animals, whereas, phases three and four are rough and non toxic to guinea pigs. Freshly isolated strains are the smooth variety type one phase. They produce the greatest antigenic response.

During the catarrhal period this organism can be detected in 75 to 100 per cent of the cases. Chievitz and Meyer introduced the cough plate method and it has proven successful in the hands of numerous investigators. The organism is present most often in the catarrhal stage and gradually disappears as the disease progresses. About the tenth day of the disease a decreasing precentage of positive cough plates is noticeable. Lawson found only one out of nineteen showed a positive plate after 27 days. The cough plate offers an early diagnosis in addition to detecting the disease where clinical signs are absent. Healthy carriers are rare and play a minor role in the spread of whooping cough. The practical value of the cough plate is underestimated. It shows that in the control of the disease the quarantine period starts too late and continues beyond the time where the patient is no longer contagious. A negative cough plate does not exclude pertussis.

The B. G. organism has not been universally accepted as the cause of pertussis because of its close relationship to the influenza bacillus and also due to the belief of several workers that a filterable virus produces this disease. The B. G. and influenza bacilli were clearly differentiated by Madsen, Sauer, and Baily. Recently McCordock and Smith, and Rich described the finding of intra-nuclear bodies in the lungs of children (45%) who died of whooping cough. These inclusion bodies have been found at necropsy where pertussis was not the cause of death. The interstitial pneumonia which complicates whooping cough is a severe one and consists of mononuclear cell infiltration of the bronchial and aveolar walls and Rich states this involvement may occur in the absence of a pneumonia. The latter believes a virus causes whooping cough because of the presence of inclusion bodies and furthermore, the intestinal pneumonia closely resembles that found in influenza, measles and canine distemper, which are virus diseases. Rich also found no constant association between the mononuclear infiltration and the presence of inclusive bodies and believes the latter may be due to the aspiration of herpes virus which has not been substantiated by McCordock and Smith. The endotoxin of the B. G. bacilli is highly toxic and could very well cause the mononuclear infiltration. Other analogous features between whooping cough and virus diseases are the marked infectivity, the lasting immunity and the occasional complication of a specific encephalitis. If whooping cough is due to a virus, it has this marked difference. Whooping cough produces a marked lymphatic leucocytosis whereas virus diseases in general usually produce a leucopenia or slight leucocytosis. Uncomplicated cases of whooping cough frequently show a 50,000 to 100,000 count while over 200,000 w. b. c. per cu. mm. are frequently seen in complicating pneumonias.

In 1928, Fukushima proved by chemical analysis that B. G. bacilli contain an abundance of fat and lipoids, which if injected into animals causes a leucocytosis and lymphocytosis. According to Lawson, (1933) whole phase 1 organisms produce a lymphocytosis and leucocytosis, whereas, phase 4 organisms merely cause a leucocytosis without altering the differential count. The lymphocytic leucocytosis is a biological response to the infection with B. G. bacilli.

Animal experimentation has been controversial, some workers were able to produce this disease in monkeys and puppies while others were unsuccessful. In 1908 Klimenko claimed to have produced whooping cough in monkeys and puppies both by inoculation and transmission from one animal to another. Arnheim, Manicatide, Fraenkel, Wollstein, Melli, and Poleff failed to produce typical pertussis in monkeys, puppies or rabbits. In 1912, Inaba produced a typical severe paroxysmal cough in a monkey within two weeks after the pharynx was swabbed with freshly isolated B. G. culture. Sauer and Hambrecht in 1929 produced a paroxysmal cough in eight out of twenty-eight monkeys by inoculating with 1-3 c. c. pure culture. Four of the infected monkeys showed a lymphocytosis. They were unable to induce infection by exposing monkeys to children during the active stage of the disease. During 1934 Inaba and Inamori produced whooping cough experimentally in eight monkeys (Macacus rhesus, weighing 1500 to 3500 Gms.) and six puppies (weighing 2000 to 5000 Gms.) both by artificial method and by exposure to artificially infected animals. They observed a leucocytosis and lymphocytosis in seven of the eight monkeys and in all of the six puppies. They disagree with Sauer regarding the initial leucopenia, which they were unable to find in 45 human cases during the catarrhal stage, but the opposite occurred, a lymphocytic leucocytosis being present in 42 per cent of the cases. They believe that in uncomplicated cases the total number of lymphocytes can be used to diagnose as well as determine its various stages.

An interesting human experiment was carried out by MacDonald and MacDonald in 1933. They immunized two of four brothers five months previously with B. Pertussis vaccine (Sauer). Ten minims of a B. G. culture filtrate was first instilled in the nose and throat of all the four brothers. No symptoms developed after eighteen days. Then 140 freshly isolated B. G. bacilli were likewise instilled in both the immunized and control brothers. The two who had not received the vaccine contracted typical disease in a week with all the associated symptoms and laboratory evidence. The two who had received the vaccine remained normal. They conclude that a filter passing virus plays no part in the etiology of the disease, that the B. G. bacilli produce whooping cough and further that immunity is conferred by the injection of B. Pertussis vaccine (Sauer).

Whooping cough vaccines have been used in the prophylaxis and treatment of pertussis for several years. Since the reports had been conflicting and because no convincing evidence was offered, whooping cough vaccines were removed from the New and Non Official Remedies in 1931. Most of the literature dealt with its therapeutic value during the catarrhal or paroxysmal stages. In 1924, Madsen reported the results obtained with vaccine produced in The Danish Institute during an epidemic occurring in the Faroe Islands. He gave the vaccine at four day intervals in three doses, 0.5, 0.7 and 1 c. c. Five deaths occurred among 2,094 vaccinated individuals in contrast to 18 among 627 non-vaccinated. On an isolated island 364 children were immunized before an exposure and all contracted the disease in a mild or aborted form. Madsen reported the results in another epidemic which occurred in 1929. In this report one death resulted in 1,832 immunized individuals in contrast to eight among 446 controls. Approximately 26 per cent of the vaccinated series escaped infection while only two per cent of the non-vaccinated were as fortunate.

In 1928, Sauer started to actively immunize infants and children with vaccine made from several freshly isolated phase 1 strains and believes protection is developed in most instances if it is given bilaterally in the deltoid region subcutaneously at one week intervals in 1 c. c., 1.5 and 1.5 c. c. doses, a total of 8 c. c. or 80 billion organisms. At present Lilly and Parke Davis are authorized to produce this material.

Sauer immunized over 1000 children, thirty-nine of these were thoroughly exposed to active cases without developing whooping cough except in two where it occurred in an abortive form. Since there is no specific skin immunity test and since some of these 39 immunized children might naturally have escaped infection, one must be cautious in being too enthusiastic regarding statements made to parents about its immunizing qualities. Sauer reported eight cases where it failed in the hands of other physicians. One of these cases came under my observation. A four year old child was given 7 c. c. of authorized vaccine (Sauer, Lilly V374) and contracted pertussis six monhts later. This child had measles two months before contracting whooping

cough which might have interfered with the active immunity. However, in another case a year old infant escaped infection following a thorough exposure to an active case, only one month after being immunized. I have immunized over 100 individuals under three years without any ill effects. Sufficient evidence warrants its continued experimental use in infants over six months of age. The active immunity is supposed to last four to six years or more. In order to honestly and carefully determine the prophylactic value of vaccine, only authorized properly refrigerated material should be used. The objectionable feature of the vaccine is the large number of injections which could be lessened by concentrating the vaccine. To determine its prophylactic value, a study is contemplated whereby about 10,000 children in the rural districts of Kentucky will be immunized by the Kentucky State Board of Health with a close follow up.

Recently Frawley, Stallings and Nichols reported favorable results in the treatment of whooping cough with a non-toxic Pertussis Undenatured Bacterial Antigen (Endoantigen) during an epidemic which occurred in California in 1933. They gave 0.1 to 1 c.c. daily. Munns and Aldrich reported similar results with this material. The endoantigen has doubtful prophylactic value.

The complications are numerous, of the respiratory tract, pneumonia is common under 2 years of age and is exceedingly grave. Atelectasis, emphysema, pneumothorax and lung abscess occur infrequently. In malnourished, rachitic and spasmophilic infants, encephalitis occurs producing convulsions, oculomotor palsies, fleeting paralysis both of clonic and tonic types. Blindness, deafness, aphasia, psychosis occur infrequently, being usually of temporary nature. Epistaxis, subconjunctival hemorrhage and otitis media are common complications. Infrequently, tuberculosis occurs as a delayed complication.

There is no disease known which has received as much attention as Whooping Cough. For centuries it has been and still is the most over treated disease since its therapy rests on mere empiricism. Historically the treatment during successive chronological periods depended on the developmental stages of medicine and their degree of enlightenment. Superstition, mysticism, astrology, alchemy and magic guided its treatment during these ages. In the 17th century the management was entrusted to old women and gypsies, which might explain all the folk remedies used at present in primitive as well as civilized communities. Cockroaches are fed in Swabia, and sparrow's blood mixed with sulphur wine is given in Constantinople. Children with whooping cough were thrown down a flight of steps for the mental effect it might have in curing this disease. They were even fed sweet milk boiled with the excreta of an ass. For instance children are still taken to the river and gas plants for relief, not realizing the value of fresh air. Every known vegetable, chemical, and physical agent has been tried, failed and forgotten, to be resurrected from time to time only to meet its Waterloo again. It would be impossible to enumerated all the various so-called cures such as: Venesection, hydrotherapy, ether injections, emetics, etc. So far it has been spared such operative procedures as temporal decompression, pneumothorax, pneumo-ventriculography and phrenic exeresis.

Not a day passes without a new high falutin drug being advertised as a specific cure for whooping cough, and the more high sounding the name the more easily it is accepted. The modern treatment consists in isolating the patient especially away from young infants. It is advisable to keep these patients out doors if both their condition and the weather permit. A window should be kept open at night during the sleeping hours. To combat the loss of weight and lowered resistance, they should be refed nutritious solid foods after vomiting. If paroxysmal attacks are known to be worse at certain times of the day, it is advisable to give food after these attacks occur. Young infants are benefited by small amounts of convalescent or parent blood given either intramuscularly or as a transfusion. Large doses of vaccine are recommended since fewer complications are believed to follow. The recent results with Endoantigen warrant its use if given early. The avoidance of excitement often lessens the number of paroxysms and a mere change of environment has been known to benefit these patients. Drugs do not cure whooping cough. If they lessen the number of paroxysms and make them milder they are beneficial, otherwise they are not indicated and merely aggravate the patient.

There are ten drugs which are recommended. A combination of two or more will benefit cases of whooping cough in most instances. They are as follows:

1. Opium and its derivatives, such as paragoric, codeine, etc.
2. The barbiturates such as phenobarbital, Amytal, and Ipral.
3. Belladonna and its derivatives.
4. Bromides as the sodium or calcium salt.
5. Ephedrine hydrochloride.

6. Antipyrine.
7. Chloral Hydrate, if stronger sedation is needed.
8. Salicylates or aspirin.
9. Ether in olive oil (25%) per rectum, one dram per year of age every four hours.
10. Avertin per rectum is indicated where convulsions occur. 50 mgms. per kilogram body weight.

Medication is often unnecessary before noon, but should be given in the afternoon and early evening before going to bed, again repeated as indicated during the night.

Whooping cough being an everyday malady is still considered by many physicians and laymen as a comparatively mild disease, nevertheless, the fact remains that during 1929 according to the United States mortality statistics there were 7,310 deaths attributed to it. Fifty-seven per cent of these occurred in the first year of life and eighty one per cent were children under two years, the respective numbers for these groups being 4,175 and 5,969. Under two years of age whooping cough causes more deaths than scarlet fever, measles and diphtheria combined. Likewise whooping cough causes as many deaths during this age group as tuberculosis (all forms), measles and scarlet fever combined. The mortality is greater among females, being 60:40. Negroes have a higher death rate. Likewise rural districts show a greater percentage of deaths. The average mortality rate in the United States during the period 1900 to 1929 was 9 per 100,000. In 1929 it was 6.3, whereas the Southern States had a mortality rate of 10. In 1932 about 300,000 cases occurred in the United States causing over 6,000 deaths, 95 per cent occurring under 3 years of age. During the past five years, 1929 to 1933, there occurred in Kentucky and Jefferson County, 1,054 and 71 deaths respectively. The number of untreated and unreported cases could be minimized by educating the laity of the danger in neglecting this disease and the necessity of proper medical care. Luttinger showed that only 10 per cent of the cases were reported in New York City. Cross infections in contagious hospitals should be prevented by strict technique. Of all deaths listed whooping cough causes one out of every two hundred, and one out of every thirty deaths during the first two years of life. A disease attended by such a grave mortality demands serious consideration especially in the prevention during the first three years of life both by immunization if possible and strict isolation of suspected and active cases.

FEMALE ENDOCRINOLOGY*

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I shall try to summarize our present day knowledge of the endocrine system as related to the female reproductive function and some allied conditions. No other field of medicine has made such rapid progress in the past ten years as female endocrinology.

There have been beautiful descriptions of endocrine disturbances in literature as far back as history goes. Stories about giants, dwarfs, and the fat man or the bearded woman of the circus. All of these are the result of some anomalous endocrine activity.

Only a few hormones have thus far been chemically identified. They are relatively simple chemical bodies of remarkable potency. Their potency suggests they act as catalytic agents. This view is partly supported by the marked concentration of the ovarian hormone in the menstrual fluid as compared with that of the circulating blood. From this it would seem that uterine mucosa concentrates, but does not metabolize the hormone. Hormones are by no means specific or characteristic of an individual race or species. Thus, insulin and thyroxin obtained from animals are useful in treating human deficiencies. Gonadal hormones seem to be completely interchangeable from one species to another, the only difference being those due to sex variations.

I shall take up each gland separately, giving some knowledge of that gland and its function and try to discuss some clinical applications.

THE PITUITARY GLAND

The Pituitary gland is made up of anterior, medial and posterior lobes. As yet no function of the medial lobe has been found. The posterior lobe secretes two active principals, first: Alpha-Hypophamine (Octatocin, Pitocin) which causes contractions of uterine muscles and no other muscle. Second: Beta-Hypophamine (Vasopressin, Pitressin) which has three functions:

(a) Pressure-depressor influence on the vascular muscles.
(b) Stimulates peristalsis.
(c) Anti-diuretic effect.

It is not known which of these hormones, or whether there is a third hormone produced by the posterior pituitary lobe that influences carbohydrate and fat metabolism. Nor, is it known which antagonizes insulin,

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but some substances from the posterior lobe does these things.

The anterior lobe is made up of three kinds of cells, the chromophobe cells which remain clear upon staining and the chromophil cells which are of two types; those that take the basic stain and those that take the acid stain.

(a) The acidophilic cells are concerned chiefly with the production of the growth hormone.

(b) The basophilic and chromophobe cells produce the gonad stimulating hormone to which several names have been applied. (Prolan, Antuitrin S. and Follutin).

If we have an hypertrophy or an adenoma of the acid staining cells and consequently an increase in the growth hormone, in early life gigantism results, and if in adult life, acromegalia develops. There is also a reduction in the number of basophilic cells, probably due to pressure, which causes an atrophy of the gonads. In this condition also we frequently have a colloid goitre, usually an increase of cells in the Adrenal cortex, persistent thymus, and hypertrophied parathyroids.

In dystrophia adiposogenitalia we have an example of extreme hypofunction of the gonad stimulating hormone, in this condition we have an atrophy of the chromophobe cells. There is no change in the acid staining cells. We have all gradations from this extreme example to the normal individual. By far the greater number of endocrine disturbances come within this group of diminished amount of anterior pituitary gonad stimulating hormone. A diagnosis is made by physical characteristics, symptoms and laboratory tests. Hypofunction is characterized by medium stature, disproportionate adiposities, small wrists, feet and ankles, male distribution of hair, varying degrees of hypoplasia of genitalia, many have changes in visual field, increased sugar tolerance, irregular menstrual periods, if there is sufficient hypofunction, late onset of periods, 90 per cent of all endocrine disturbances are of pituitary origin.

Pituitary infantilism is due to a deficiency of both growth and sex hormones, which causes an arrest of development in the entire body. This condition is hereditary. With our present knowledge, relief of this condition seems to be in sight.

A derangement of the pituitary anterior lobe affects the body as a whole far more than a primary derangement of any other member of the endocrine glands.

Experimentally, the growth and gonad stimulating hormones inhibit each others action. The prominence of the growth hormone in early life may account for the lack of sexuality during prepubertal life.

The function of the anterior pituitary gonad stimulating hormone is to control the ovarian cycle. It has no specific influence on the uterus and vagina. The Germans believe that there are two gonad stimulating hormones. Prolan A, the follicular stimulating hormone and Prolan B, the corpus luteum stimulating hormone. The Americans have not been able to separate or identify two hormones. If excessive doses are given, rapid lutenization of the Graafian follicles occurs before ovulation. This is a typical Aschiem-Zondek positive reaction.

This hormone is excreted in menstrual fluid and in urine. The source of the commercial product is obtained from urine of pregnant women, it gradually increases, up to the 5th month and then gradually decreases. We also have an increase of the hormone in the blood in amenorrhea hypomenorrhea, castrated women and very marked in late toxemias of pregnancy.

Although there is a relative decrease in Prolan during the last four months of pregnancy, there is still more than in a normal non-pregnant woman. This excess disappears within about two weeks after the termination of normal pregnancy. It persists much longer after the expulsion of Hydatidiform mole.

Ascheim-Zondek reaction would remain positive about two months after the mole is expelled. If longer, chorionepithelioma usually exists. There is about twelve times as much Prolan produced when a mole is in the uterus as there is during normal pregnancy.

A recent investigator has demonstrated that the administration of Prolan causes quicker increase of red blood cells in secondary anemias than in other patients treated identically, except no prolan was given. Some investigators have claimed to have isolated a Mammary stimulating hormone from the anterior pituitary gland, this substance is not present in the urine of pregnant women. It is only found in an alkaline extract of the anterior lobe. Due to this, the product extracted from the urine is sometimes called the pituitary-like hormone. The hormone is only effective if given by hypodermic method. It is destroyed by intestinal secretions.

THE OVARY

The function of the ovary is both excretory and secretory. The development of the ovum is its excretory function. Then two

products are secreted. First: The female sex hormone or estrin. Second: The lutin hormone or progestin. I shall not go into the method of isolation, but shall tell you about these two latter products.

Estrin is produced by the Graafian follicle corpus luteum placenta and probably the theca lutein cells. Its function is to produce growth and vascularization of the uterus and vagina independently of other hormones. It is in the blood in such small quantities the first two weeks of the menstrual cycle that it cannot be demonstrated.

It then gradually increases until menstruation. Large amounts are excreted in the menstrual fluid. In pregnancy the amount decreases until the second month, then increases until delivery. There is usually a decrease in the blood estrin in the following conditions.

(a) In regularly menstruating sterile women.
(b) In amenorrhea and hypomenorrhea.
(c) Puberty bleeding.
(d) Proclimacteric bleeding.

In late toxemias, from about the 6th month on, there is a relative increase in prolan and a decrease in estrin. Labor is established when progestin is withdrawn and oxytocin and estrin are left unopposed to act on the uterine muscles.

Great care must be used when administering estrin in any cases except menopausal cases. The continued use of estrin does not stimulate, but there is usually a sclerosis of the ovaries. Some recent investigators working on the theory that estrin stimulates vaginal mucosa have treated juvenile gonorrheal vaginitis by the administration of estrin which causes a development of the vaginal mucosa, from a few layers of epithelium up to about thirty layers. This, of course, does cure the vaginal inflammation, but just what harm is done by the stimulation of the uterus and tube, enough time has not elapsed to show us. We may also use estrin in infantile genitalia in massive doses causing a development of the uterus and vagina, then by stimulating the ovary with prolan we will cure many cases of sterility and amenorrhea. Estrin may be given by mouth in about 4 times as large doses as hypodermatically.

Primarily ovarian hypofunction is characterized by: Disproportionate skeletal development, overgrowth of long bones, narrowing of pelvis, old-maid type, superlatively feminine, self-centered, emotional, critical of environment, soft skin, hypoplasia, sterility, late onset of menses, followed usually by menorrhagia, dysmenorrhea, frequent headache, frigidity, fatigue in the absence of physical exertion.

I would like to discuss briefly, menorrhagia, its cause, findings and treatment. It may be divided into three groups according to age. Prolonged bleeding is caused by the unopposed and uncontrolled action of estrin on the uterus. There has not been enough prolan to stimulate the formation of the corpus luteum and yet enough to cause production of the Graafian follicle and estrin. The lack of the lutein hormone then is usually the cause.

PUBERTY BLEEDING

(a) Follicular cystosis and endometrial hyperplasia.
(b) Blood estrin, frequently demonstrable.
(c) Responds to low dosage eradiation of ovaries and pituitary.
(d) Does not respond to antuitrin S.

MATURITY BLEEDING

May be divided into four classes.

1. There is usually a period of amenorrhea followed by a continuous flow. The ovaries contain one or more small cysts of the follicle type. The pituitary starts off a follicle but rupture does not occur so no corpus luteum is formed. The continued action of estrin causes hyperplasia of the endometrium, small areas slough and bleeding occurs from the surface. Fibroids are common.

2. Too frequent periods. Ovaries show developing follicles and corpora lutea. Endometrium is swollen but not hyperplastic.

3. So-called inter-mensrtual bleeding. There is a diapedesis of blood from the congested endometrium at the time of ovulation, usually a spotting, no treatment necessary.

4. Usually increased interval followed by a severe prolonged period. The ovary shows a persistent corpus luteum which is often cystic. There is an over-development of the pre-menstrual endometrium. Where the progestin is withdrawn the bleeding may be so severe that a miscarriage is suspected. Prolan is valuable in treating one and two, contra-indicated in type four. No treatment in three.

PRECLIMACTERIC BLEEDING

If the bleeding follows one or more missed periods it is usually benign. If the abnormal bleeding follows a normal interval, an exploratory uterine curettage is indicated. Cause of benign bleeding is due to intrinsic degenerative changes in the ovary. Antuitrin S. unsuited for puberty and menopausal bleeding, but good in maturity bleeding.

Now just a few words about some other

glands which affect the reproduction system to a milder degree.

THYROID

The thyroid is not strictly a sex organ, nevertheless an inadequate supply of the thyroid hormone profoundly depresses sex function as seen in cretinism and myxedema and in even milder forms of thyroid deficiency. Menstrual changes in thyrotoxicosis is not constant, but usually decreases flow, due to severe systemic depression. During pregnancy the iodine content is decreased and there is some enlargement of the gland in a large per cent of cases, administration of iodine is indicated.

There is a thyroid stimulating anterior pituitary hormone. This may be given and the basal metabolism rate will increase for a short time, but, when the hormone is continued and antibody is formed so that the basal metabolism rate goes below the normal for that individual and continues, no matter how much of the hormone is given.

ADRENAL GLANDS

The adrenal gland is made up of two types of cells, the medullar portion, which is of ectodermal origin and the cortical portion, of mesodermal origin. The medullary tissue secretes the commercial adrenaline, that is so widely used. Bilateral removal is not compatible with life, however, one gland, one-half of other gland can be removed and the medullary portion or remaining half, cauterized and the animal lives in apparently perfect health. Adrenaline is not indispensable to life and is in no way connected with the generative organs. It does, however, have a decided influence on other glands.

It is antagonistic to insulin, shown by its ability to mobilize liver glycogen and to counteract hyperinsulinism. Para-thyroid tetany cannot be produced in the absence of adrenaline. Adrenaline stimulates secretion of thyroxin and vice versa. Adrenaline causes inertia of uterine muscles.

The cortical secretion is not available for general therapeutic use, however, sufferers from Addison's disease have been helped through its use by a few investigators. The superenal cortex has an evident but complex relationship to the sex organs. Sex precosity is frequently associated with adenomata of the superenal cortex. This condition has been observed in neoplasm of the pineal gland, ovary and anterior pituitary gland. In the adult female, cortical tumors are known to produce reversal of sex characteristics, while in the immature the generative organs are stimulated. In cortical deficiency oral administration of the gland has proven ineffective. Addison's disease is the typical illustration of cortical deficiency. Its symptoms are: Asthenia, insomnia, mental depression, failure of memory, poor judgment, lack of co-operation.

DISCUSSION

R. A. Bate: This excellent paper covers the field very beautifully in the length of time that has been allotted. It shows why the subject is often confused with the possibility of the overlapping effect of the varoius syndromes of the different glands. The essayist started out with the pituitary, the anterior pituitary has a direct effect, first, in its growth hormone which stimulates the thyroid (which was not so much emphasized in the paper) by this natural growth, (of the thyroid), then in its turn the thyroid also has an effect in stimulating the various functions of the ovaries. Of course, there are many examples of the thyroid action in sterile women, who have had children under the circumstances of the administration of thyroid alone. The doctor brought out the anterior pituitary hormones stimulating the two ovarian hormones in turn, one the folliculin, the other the corpus luteum. The posterior pituitary action does not seem to have been so generally recognized, as I believe, in time it will be, although it was first emphasized and described at length, hypothetically, by the Master, Sajour, as early as 1900. Perhaps this posterior, pituitary is the one that gives automatic adjustment and causes us to get a hormone view in one instance of what in another we observe achalone, or inhibiting effect. In the excessive menstruation of metrorrhagia this posterior pituitary corrects. The posterior pituitary acts, perhaps, by correcting the over-activity of the anterior, and also by arresting the effect of the folliculin. The posterior pituitary seems to have the power to control or modify, all endocrine activity, and undoubtedly does so by the marvelous factor of electrochemical activity, which is the only means by which we can explain ionization and automatic action. For instance, autacoids, or endocrine secretions, have a different physiological effect upon the system at rest and relatively alkaline, from the effect those same autacoids have upon the system in a state of exhaustion, or relative acidity. Monkeys have been deprived of the anterior pituitary body, then castrated, they can be given folliculin, stimulating these functions without any bleeding, but by the administration of the anterior pituitary hormone a bleeding takes place. This especially demonstrates the anterior pituitary effect on this particular function. In the overlapping of these various syndromes the doctor brought out adiposogenitalism, a condition which is, in turn, somewhat modified by the thy-

roid, so that an increased activity will probably take place there.

I believe that on account of the difficulty in getting this over-lapping autacoid, or endocrine picture, clearly before the internist, is the reason endocrinology has been so slowly taken up by the profession in general; yet it has been clearly told from the beginning by Sajour, and if one were willing to devote the time and attention assiduously, even at the present day, they would find identically described, the things that have been demonstrated by these laboratory workers, to whom we are so indebted for facts.

I think the doctor's illustrations were most excellent. I think the scheme by which he brought out the application and the effect of the folliculin in stimulating the effect of the corpus luteum hormone and in arresting was very beautifully done, but that side might have been a little more emphasized, in its effect in controlling the changes in the folliculin and in the lutein hormone. There is a tendency to call these preparations, or hormone substances "prohormones." Folliculin is considered as having to do with anabolic preparation for conception; in the action of a corpus luteum—we get the destructive changes of catabolism, or the breaking down of this up-building if conception has not taken place, and of course the complete cycle is made in that way. If conception has occurred, follicular activity ceases except in the anabolism of pregnancy.

W. O. Johnson: I think one of the most confusing factors in endocrinology is that we have so many different names recommended by the pharmaceutical houses for the same preparations, with such a wide variation of concentration of these products. If we consider the endocrine system, roughly as we do the engine of an automobile, we might say that the pituitary is the control, the thyroid the gas, and the ovaries the distributors, and with this in view, if we can arrive at the proper diagnosis in the individual we are asked to treat, we can better approach the solution of our problem. We should always take into consideration that the endocrine system is the co-ordination of all the endocrine glands and that if one of these glands does not react in a normal way, then the others are increased or decreased in activity, to a certain extent, to compensate for the function that is not normal or that has been changed. This is shown when a woman is castrated, or a person's thyroid gland is taken out, and there is a pituitary hypertrophy, or when there is a thyroid disease there is a pituitary hypertrophy, and ovarian atrophy.

One must always bear in mind that in the administration of glandular products, the effect in most instances is to depress the activity of the organs from which the product in derived, and this in turn brings about some disturbance in the affected gland itself.

The United States Pharmacopeia has discarded all the dried glandular products (except that of the thyroid) because of their impotency. In order to have the most satisfactory results we must give a known amount of hormone, with sufficient concentration adequate for the individual treated. If we take into consideration the active principles in 15 gr. of ordinary ovarian extract, we find that it amounts to 1-1000 of a rat unit, and if it takes 12 to 15 thousand rat units of female sex hormone to bring on a pseudo-menstruation in the castrated female, we can readily see the inefficiency of such a small quantity of ovarian extract. In the different preparations on the market there is a marked difference in the concentration of these products, ranging from 3 rat units per cc. to 2,000 rat units per c.c. in the same type of hormone. This is also true of Corpus Luteum. As yet, there is no definite standard of measuring the potency of corpus luteum, for taking into consideration the changes that occur in corpus lueutm we are extremely fortunate if we can get 50 per cent potency in the best extract obtainable. So one can easily see that the administration of small doses of these products will not be likely to produce satisfactory results. This alone is one reason why convincing results have not been obtained, and why endocrine therapy has been tabooed by some. In carrying out proper endocrine therapy we must first be sure that we have the correct diagnosis in the individual we have to treat, and secondly, we must give sufficient amounts of the active principle of the hormone necessary to bring about results in each particular patient. At the present time we know enough about endocrinology to discard the so-called combined preparations, for each case must be treated individually.

R. J. Griffin: In regard to the sources of the hormones for clinical use, we have two readily available in the urine of pregnant women, which is the source of most of the commercial preparations.

Aschheim and Zondek have found that the end of the sixth month of gestation, the anterior pituitary hormone is excreted in the urine at the rate of about 7,000 mouse units per liter, or 7 units per c. c., and the female sex hormone at the rate of 8,000 to 10,000 mouse units per liter, or 8 to 10 per c. c. This urine may be passed through a Berkefeld filter, cultured for sterility, and injected intramuscularly in quantities sufficient for therapeutic effect.

About a year ago, there occurred in the German literature a report of the use of the urine of pregnant women per rectum as retention enemata. The author boiled the urine in order to

sterilize it, and in so doing destroyed the pituitary hormone, but had let the estrin, which is thermostable. Most of his patients were menopausal, and good results by this substitution therapy were reported.

We do, then, have hopes of having these hormones available for clinical use, even though the price of theolol, for example, may be prohibitive to the patient.

Silas Starr: I do not have anything to add to the discussion except to go one step further than Dr. Johnson. I agree with him that there is a great deal of confusion, I think, because of what the pharmaceutical houses claim for the product doing different things, plus the fact that each house has a different name for a product which is the same.

Doctor Cox used the German name "Prolan" and "Estrin," and each pharmaceutical house has a different name for these. For certain men who do very particular work in this field it is easy to differentiate between them, but, when a doctor conscientiously doing a general practice, wants to give these products, he is swamped with the various names which mean the same thing.

I think some standardization should be arrived at so the practical application will be much easier and more satisfactory.

H. A. Davidson: I just want to add a few remarks in regard to Dr. Cox's paper. Dr. Duhigg spread it on rather thickly tonight in complimenting the men who sat before him. I just wonder how many of us could discuss that paper in the proper manner without proper preparation, and that brings up the point I want to make. I think a paper like that, which is a most excellent one, and is very hard to digest, should have two or three doctors, selected at least two weeks before the meeting, to discuss it, and they should be given the paper to read and digest at least two weeks before, so they can discuss it intelligently. We do it at the Kentucky State Medical Meeting and the American Medical Association, and why should we not do it here at the Jefferson County Medical Meeting?

From another standpoint, I want to bring out this point. The discovery of the Asheim-Zondek test probably was the beginning of a great many experiments in recent years to bring out the functions of many of these internal glands. That was one of the greatest discoveries we have had, I think, along that line. The other point is this—that if doctors give these internal secretions indiscriminately, they are going to do harm in some cases, because if you give too much of one hormone you depress the function of the gland that secretes that hormone in that patient and you do harm to the glands of the patient you are trying to help. I believe that point was not stressed in the paper.

I hope the first remark I made will be put into effect in a future meeting.

D. M. Cox, (In closing): I want to thank the men for the discussion and wish to say I did not go into the method of production because I did not think it was practical to do so, because we are not going to use that part of it. In using the hormones, the most important thing is to make a diagnosis of just what gland is deficient. We cannot treat a hyper-active gland; we can a hypo-active one, and remember, when we give a product, for instance ovarian extract, it is going to depress the ovary while you are giving the hormone, and consequently, taking this as an example, in infantile genitalia, if you want to give large doses of estrin, as the Americans call it, you should give along with this some Prolan or Antuitrin S to stimulate the ovary in the individual while we are giving the ovarian extract or Theolin, to stimulate the uterus to normal development. Prolan A and B: Prolan A is supposed to stimulate the development of the follicle and the production of estrin; Prolan B is supposed to stimulate the development of the corpus luteum and the production of progestin. Now the Americans have not been able to identify or separate these two hormones and the Germans have not either, but they say there must be two. Probably the two hormones from the pituitary are soluble in the same type of ether, or whatever is being used to extract them with, and we cannot separate them. We probably will in the future, but, at present, they have not been. We have no progestin or corpus luteum available in the United States at the present time that is potent; the German company, Schering, has recently put out a product which they think is potent.

I think after we make a diagnosis of the hypopituitary deficiency, we should give Antuitrin S or Prolan in the latter half of the menstrual cycle, and just what depressing effect this has on the pituitary we are not able to determine and it has not been determined at the present time. In giving ovarian extract, let me say, I personally have used it successfully in relieving menopausal symptoms, but have used it only very occasionally in any other condition. It certainly allays menopausal excitability, nervousness, hot flashes, etc. The products I have used are Thelol and Antuitrin S.

Origin and Nature of Pigmented Nevi.—Becker states that the examination of several hundred pigmented nevi by modern histolgic methods showed that they consisted of one or two types or a combination of the two. The first is the strictly cellular type, which results from the multiplication of the clear cells in the epidermis, with or without penetration into the dermis; the second is the nerve type.

AN UNUSUAL FOREIGN BODY IN ABDOMEN*

D. P. Hall, B. S., M. D., F. A. C. S.

Louisville

The effect of foreign substances upon the peritoneum has been repeatedly observed. Foreign bodies placed within the cavity under aseptic conditions may remain for some time in many instances without exciting more than a local reaction. The amount of local reaction depends upon the size and character of the foreign body and upon the presence or absence of infection.

Foreign bodies gain entrance into the general peritoneal cavity by numerous routes; but we have not found reported in the literature the finding of a piece of wood in the peritoneal cavity three months after having been introduced into the uterus and perforating same, then becoming encapsulated between the iliac vessels and the cecum.

Howard A. Kelly cites several instances in which the uterus was perforated both by elm tents and tupelo tents followed by an acute peritonitis and death, in many, the tent was forced through an antiflexed uterus into the peritoneal cavity, a portion of the wood or tent remaining in the uterus.

Mrs. J. J. G. Housewife; white; thirty-two years of age; multipara. Was admitted to S. S. Mary & Elizabeth Hospital on November 7, 1934, complaining of weakness, with severe pain in lower abdomen.

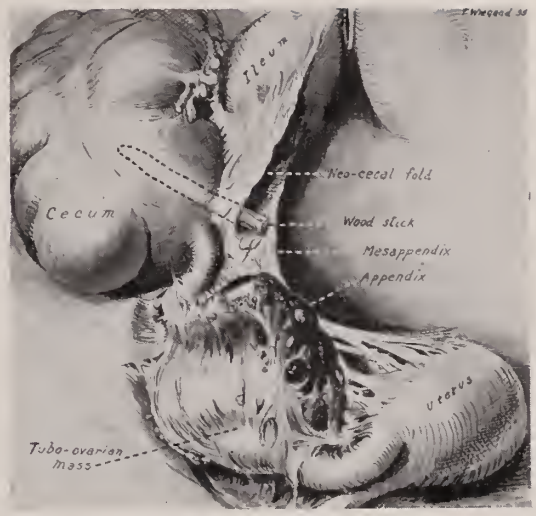
One month ago an abortion was induced by the patient packing cloth into the vagina. One week afterward, a mass was discharged, followed by slight bleeding and severe pain in lower abdomen, associated with fever.

Within the past few days patient has experienced chills, followed by high fever without sweats but accompanied by nausea and constipation.

Patient was pale, undernourished, dehydrated and had the appearance of being acutely ill. The temperature was 103° F., pulse 120, and blood pressure 120-78. Head, neck, chest and cardio-vascular system presented no evidence of pathologic change.

A large mass was palpated in the lower abdomen to either side of the midline, which was firm and very tender; extreme rigidity was present. There was a moderate degree of abdominal distention.

Vaginal examination disclosed a large, firm, tender mass to either side of the uterus, extending from the pubic region to the cul-de-sac. The uterus was small and antiflexed.



Position of Wood in Peritoneal Cavity

Uterine smears revealed streptococci, Staphylococci, with gram negative bacilli; no gram negative intracellular diplococci found.

Urinalysis: Color, amber; appearance, turbid; reaction, slightly alkaline; specific gravity, 1.010; albumin 4-plus; sugar, negative; acetone, negative; no casts, two pus cells to high-powered field.

Blood: Hemoglobin 56.3 per cent; color index .9; coagulation time 6 minutes; red blood cells 3,200,000; white blood cells 13,300; poikilocytosis, marked. Polynuclears, 89 per cent; juvenile 6 per cent; Stab. 13 per cent; Seg. 70 per cent. Myelocytes 1 per cent. Blood culture negative. Blood sedimentation time at 25-minutes 18-mm.; at 60-minutes 25-mm.

Diagnosis: Pelvic Cellulitis following septic abortion.

The patient was placed in extreme Fowler position; transfusion of 500 cc. of blood; fluids forced; liquid diet; and morphia administered for pain during first three days, followed by small doses of codeine.

There occurred a gradual decline in temperature and pulse rate to the normal level, the rigidity disappeared, also there was a decrease in the size of the pelvic mass.

On the fourteenth hospital day, the patient was discharged to return home and convalesce under the care of her physician, with instructions to return in a few days for examination as to residual pelvic inflammatory disease.

On December 27, 1934, one month after dismissal from hospital, patient returned much improved (having gained ten pounds in weight) except for a continued pain in right lower abdomen which becomes severe

Read before the Jefferson County Medical Society.

on slight exertion. Temperature 98° F.; pulse 80; blood pressure 120-74.

Upon examination, a slight mass could be palpated in the lower abdomen to the right of the midline; no tenderness and no rigidity noted. Vaginal examination revealed a rather firm, tender mass in the right adnexal region, which was fixed; no mass or tenderness found in left adnexal region; uterus antiflexed; the cul-de-sac was not bulging or tender; there was some slight extrusion of cervical mucosa but no discharge from os.

Urine showed a slight trace of albumin but no casts and no pus cells.

The hemoglobin had increased to 72.8 per cent. Red blood count 4,380,000 and white blood count 8,400. Polynuclears 73 per cent.

A diagnosis of chronic bilateral salpingitis with possible right tubo-ovarian abscess, was recorded.

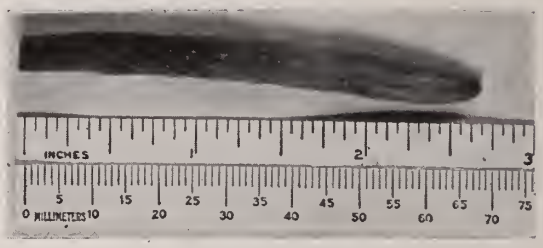
On December 29, 1934, under spinal anesthesia, a pelvic section was performed. Upon opening the abdomen, the uterus was found to be antiflexed; there was a right tubo-ovarian mass the size of a lemon, with distal portion of the appendix intimately fixed—the mass being adhered to the lower uterine segment with dense adhesions; the left tube was large and due to closure of fimbriated end was retort shaped; left ovary was free and of normal size and color.

Upon freeing the adhesions to uterus, a small scar in the lower uterine segment was noted. After freeing the appendix, the right tubo-ovarian mass was excised and broad ligament peritonealized, followed by a left salpingectomy. In the process of freeing the adhesions from base of appendix and cecum, a small, hard mass was felt at base of mesoappendix between the iliac vessels and cecum. On careful dissection this proved to be a piece of wood, which when released from its encapsulation of fibrous tissue was easily removed. No injury was found to the cecum, ureter or iliac vessels. On examination, this piece of wood was found to be about as large in circumference as a lead pencil, three inches in length and sharpened at the extreme end. An appendectomy was performed in the usual manner.

One cigarette drain was introduced into the pelvis.

Following the operation, a transfusion of 500 cc. of blood was resorted to.

Pathological diagnoses: 1. Tubo-ovarian abscess. 2. Chronic salpingitis. 3. Chronic periappendicitis.



The Wood Specimen

Patient had an uneventful convalescence and was discharged on the twenty-first hospital day.

Upon interrogating the patient, she admitted that she had introduced a piece of wood into the uterus, using cloth in the vagina to hold it in place but she was under the impression that the piece of wood was discharged at the time of abortion.

This report is presented not only because of the infrequency of a foreign body being introduced through the uterus into the free peritoneal cavity and remaining several months before its removal; but to point out the great protective and reparative properties of the pelvic peritoneum and its resistance to trauma and infection.

DISCUSSION

J. K. Freeman: I have had some experience with similar cases, but not exactly as unique as this. You cannot always rely on the histories that patients give; if that patient had told her doctor outright, "I put a piece of kindling in my uterus," he would have known what to do. I want to congratulate him on his results.

C. G. Forsee: In the penetration of wood in the flesh, a great deal of the infection depends on the kind of wood. White pine is a notoriously infective material and is followed, almost always, by abscesses forming and results in breaking down of the tissue. This appeared to me very much like metal.

D. P. Hall, (In closing): In answer to Doctor Forsee, I made some inquiries at the time the wood was photographed and it was the general opinion that it was pine, I thought at first it might be elm.

Mortality Rate: 8,000 to 10,000 per week was the mortality rate in London during the great bubonic plague of 1665, declares Richard E. Seammon, Ph. D., dean of the biological sciences in the medical school of the University of Minnesota, who add that the 450,000 Londoners of the time "met the crisis with a fortitude, courage, and even temper that was nothing short of marvelous."

ADENOMATOUS GOITER*

FRED W. RANKIN, M. D.
Lexington
AND
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Patients having adenomatous goiter without hyperthyroidism are too frequently told that the condition is of no consequence or that operation can be safely delayed until symptoms develop. With few exceptions, chiefly the rate of growth of the goiter and the age of the patient, the treatment is surgical. A normal size thyroid containing a few small adenomas need not be surgical, but the enlarged nodular goiters involving one or both lobes, and the single adenomas greater than 3 cm. in diameter are usually considered surgical. A better understanding of the pathology and the clinical manifestations of this entity will reveal its ability to impair the patient's health or endanger his life if neglected.

A satisfactory pathological classification has been given by McCarty after a careful study of the collected material from 32,479 goiter specimens. Using hypertrophy in the sense of enlargement of the thyroid above normal size, his material was classified as follows: (1) hypertrophic colloid goiter, 2.4 per cent; (2) hypertrophic parenchymatous goiter (exophthalmic), 29.3 per cent; (3) hypertrophic nodular goiter, 67 per cent, and of this group 84.6 per cent were without parenchymatous hypertrophy and 15.4 per cent were with parenchymatous hypertrophy; (4) 8 per cent were carcinomas; (5) sarcomas were found in 7 cases; (6) epithelomas in 7 cases; (7) tuberculosis in 22 cases; (8) 58 cases were undifferentiated; and (9) hypertrophic fetal thyroid in 1 case.

The hypertrophic nodular goiters are due to the presence of spheroidal circumscribed masses which usually can be shelled out. However, in a few cases the adenomatous change is diffuse and non-encapsulated. These groups of new acini are thought to arise from fetal rest, but cannot be considered normal. The so-called fetal acini which give rise to the fetal adenomata have no colloid containing lumen and present the general appearance of not having functioned. The more highly developed new vessicles however, show the same histological evidence of function and hence cannot be distinguished individually from the vessicles of the surrounding normal gland tissue. It was also noted that the gradation from one type to the other may be seen in the nodule of an individual gland.

Adenomatous tissue tends to undergo various degenerative changes of which hemorrhage is the most frequent. The extravasations may be absorbed without making themselves known; the larger collections of blood usually mark the onset of cyst formation, some of which may become rather large up to 5 to 10 cm. in diameter. However, the larger cysts usually result from over-distention of some of the vessicles with colloid. In turn, these may rupture and coalesce with adjacent vessels. These may be noted clinically by giving a sense of fluctuation and elasticity when carefully palpated. Occasionally additional hemorrhage may take place in these cysts, giving rise to sudden swelling which may cause the patient acute pain. Rarely do these cysts, under such conditions, have to be aspirated for relief of pressure since it is infrequent that they displace the trachea or result in respiratory difficulties. In time, with the application of cold packs, these tumors will subside.

The macroscopic degenerative changes are likely to terminate in a fibrosis, or at times in calcification. This latter change is usually circumscribed, frequently involving several areas of the gland, and of such hardness as to create grave suspicion of malignancy. It is well to keep this possibility in mind as well as that of woody thyroiditis in considering cancer of the thyroid. Fibrosis is rarely so hard or circumscribed as to be confused with carcinomatous change. It usually results from the replacement of hemorrhagic areas by fibrous tissue or as a secondary change in thyroiditis.

Areas of hypertrophy both intra-adenomatous and in the surrounding thyroid tissue are present in a surprisingly high percentage of the nodular goiters. This is more frequently true in cases of hyperthyroidism than in those in which it is not present. The adenomatous tissue elaborates an excess of thyroxin which gives rise clinically to the hyperthyroid state. Early in its life's history, adenomatous tissue cannot function but it is likely that it can store colloid. This is inferred by the clinical occurrence of hyper-functioning goiters in less than 5 per cent of the adenomatous goiters in patients under 30 years of age. However, the incidence rapidly increases with age until about 60 per cent of all such thyroids resected in patients after the 60th year of life are hyperfunctioning.

No apparent reason for the onset of hyper-

*Read before the Boyle County Medical Society, Danville, Kentucky, May 15, 1934.

thyroidism, and no stimulating factor which might initiate these glands, has been definitely found. Trauma, surgical operation, and shock have often been considered influential. A critical review of the history in cases of exopthalmic goiter or hyperthyroidism from adenomatous goiter when attributed to acute infections, nervous shock, or surgery, will usually show that the abnormal thyroid state preceded the other conditions. If any influence be exercised, it is more likely that it is that of precipitation or aggravation of the hyperthyroid state.

Infection processes as etiological factors in these types of goiters have never been proved. At most, we might assume that by the lowering of the body resistance of these patients, infectious processes might initiate hyperthyroidism in those people predisposed to the disease. Surgery on structures other than the thyroid gland as a causative factor likewise cannot be established. It is possible that such times become epochal in the patients' mind and they date subsequent change from such experiences. However, it is often found that patients with hyper-functioning goiters may have other conditions. These are likely due to the debilitating effect of the hyperthyroidism which renders the patient susceptible to other maladies.

The treatment of adenomatous goiter without hyperthyroidism, with few exceptions, is surgical. This is particularly true because of the insidious onset of hyperthyroidism and the incidence of malignancy. Too much emphasis cannot be placed on either of these possibilities. The former is likely to render the patient an invalid, while the latter will more rapidly execute its penalty. The insidious onset is likely to undermine the whole structure by virtue of the degenerative changes occurring, particularly in the heart and liver. One must be alert and conscious of these changes when examining all patients, for we must dispell from our minds the idea that thyroid glands to be dangerous, must be of such gross proportions as to distort the patient's neck, for not infrequently a small adenoma lying low in the neck or substernally may be a continued source of the thyrotoxicosis.

The well established clinical picture resulting from excess production of thyroxin and characterized usually by heat intolerance, sweating, increased appetite, weight loss, weakness, rapid pulse, palpitation, and dyspnœa, may not always be present, and an early diagnosis may not be made if we continue to look alone for the well established syndrome. If the diagnosis is delayed until all of these factors are present and the condition is then obvious to the patient, we have allowed for prolonged intoxication with parenchymatous change and irreparable damage to the liver and heart.

As an example of the difficulties encountered in diagnosis, the patient may not appreciate a sense of heat intolerance, but may admit a feeling of well being in cool weather. Direct questioning may reveal that in recent years the patient wears less clothing than formerly during cold weather and that he requires less bed-clothing, which is particularly noticeable if the patient sleeps with someone else, or that when in rooms occupied by others he requires more ventilation.

Cardiac enlargement, auricular fibrillation, and even decompensation resulting from hyper-functioning adenomatous goiter have many times been treated as primary heart conditions by the usual prescribed methods of digitalis, ammonium salts, and salyrgin without the expected response. Likewise, transitory attacks of auricular fibrillation following some acute illness or surgical procedure are not rightfully appreciated as mild hyperthyroidism. This possibility should be considered following surgery when the pulse rate, rhythm, and general systemic reaction is in excess of that which is usually expected in the type of operation done. Marked weight loss where malignancy, tuberculosis, diabetes, hypertension, and other debilitating systemic diseases are ruled out, should be investigated for hyperthyroidism as the source, particularly in the presence of an increased appetite.

It is not uncommon for patients suffering from hyperthyroidism to lose weight and strength to the point of being unable to perform their routine duties. Weakness is well demonstrated by quadriceps loss when the patient is asked to step upon a chair or some elevation. It is with the greatest difficulty that he makes the ascension and then more or less by pulling up. Rapid pulse, palpitation, and dyspnœa are too frequently considered the result of primary cardiac disease or asthma while the hyper-active goiter is the basis for the patient's discomfort.

Smith has made an interesting study of records of 1045 consecutive cases of auricular fibrillation and found the three leading conditions to be hypertensive and coronary heart disease in 33.9 per cent of the cases; hyperthyroidism in 32 per cent; chronic rheumatic heart disease with mitral stenosis in 22 per cent. In addition, he selected a group of 205 cases of adenomatous goiter with hyperthyroidism and found that auricular fibrillation occurred in 14 per cent, while in a similar study of 204 selected cases

of exophthalmic goiter, it occurred in only 4.9 per cent of the cases. From this comparison it seems that in patients with hyper-functioning adenomatous goiters, auricular fibrillation was almost three times as high in incidence as it was in patients with exophthalmic goiter. This may in part be explained by the fact that most adenomatous goiters occur in individuals past 30 years of age and exist on the average for about 18 years before definite hyperthyroidism is manifested and the patient brought to surgery, where as exophthalmic goiter usually occurs in young individuals, is more acute in its onset and consequently more frequently diagnosed early before prolonged cardiac strain and damage result.

This evidence should again impress us with the cardiac manifestations of this disease and since it is the causative factor in approximately one-third of the cases of auricular fibrillation studied, one should never undertake the treatment of auricular fibrillation without first investigating the thyroid.

The diagnosis may be made more difficult when the basal metabolic rate in adenomatous goiter with hyperthyroidism does not coincide with the clinical symptoms, but is within considered normal range. This is not easily explained unless we assume that such patients normally have a low basal metabolic rate which when elevated by hyperthyroidism, approaches what would be considered the normal level in the majority of individuals. A positive diagnosis of hyperthyroidism may be made in spite of a low metabolic rate if definite symptoms of hyperthyroidism such as weight loss, heat intolerance, elevated pulse, and palpitation are present. Experience in a series of cases where relief of symptoms followed thyroidectomy justifies this opinion. These cases of unusual manifestation and of insidious onset of hyperthyroidism will likely eventuate in cardiac decompensation without being suspected unless one be ever on one's guard against this possibilty.

Debility in older patients with hyperfunctioning adenomatous goiter may be erroneously attributed to hidden malignancy, degenerative changes of old age, or the vascular renal changes of hypertension. Furthermore, the diagnosis may be rendered particularly difficult if the latter condition is associated. However, in the presence of this condition, funduscopic examination is of great value in differential diagnosis. The arteries will show varying degrees of narrowing and when they overlie the veins, apparent segmentation. Scattered throughout the retina may be hemorrhage, if recent, indicated by irregular reddened areas; if old, by white fibrous patches. In the more severe cases there is blurring of the margins or even edœma of the disc. In cases where this evidence is not obtained, a muscle biopsy from the pectoralis major with a careful study of the small vessels will decide the point. Older individuals who are likely to have some arteriosclerosis, hypertension, and at times angina, may have these symptoms so stressed that an associated hyperthyroidism in an adenomatous goiter may be overlooked.

Total thyroidectomy of the normal gland recently undertaken with the purpose of reducing the basal metabolism, body activity, and cardiac output, has proved beneficial in conserving a reduced cardiac reserve and therefore alleviated or cured many primary hypertensive coronary and anginal heart conditions where the margin of competence was very slight. This work was prompted by the marked clinical improvement in the cardiovascular system following sub-total thyroidectomy in patients suffering primarily with hyperthyroidism. In view of these studies it is easy to understand how a hyper-active adenomatous gland might aggravate an existing angina pectoris by increasing the heart's activity and thus creating a relative anemia in the coronary circuit and precipitating a classical attack.

Cancer of the thyroid almost invariably arises in a pre-existing adenoma, and is usually of a low grade of malignancy. However, it might be of the higher type and rapidly extend to involve the recurrent nerves on one or both sides with the result of vocal cord paralysis. This growth disregards the muscles and facial planes of the neck and develops in a very irregular manner so that it presents grossly a diffuse nodular gland which is quite different from that of the benign adenomatous type of goiter, the latter being restrained by the sterno-hyoid and sterno-thyroid muscles and conforming more to the shape of the neck.

The malignant growth is very hard, simulating a woody thyroiditis or a calcified adenomata. Its irregular growth will usually differentiate it, however, there are times, particularly in the early cases, where biopsy will be necessary. Pemberton found the frequency of cancer of the thyroid gland as compared with that of benign nodular tumors of the gland to be 1:36.7 and was of the opinion that malignancy had developed on benign goiters in 87 per cent of the cases.

In 65 per cent of the 276 cases which came to surgery, diagnosis had not been suspected preoperatively.

This would indicate that there are no signs or symptoms by which early malignant change can be recognized, and commonly it is only after the lesion has perforated the capsules of the gland and extended into the structures of the neck that diagnosis can be made. A careful study of basal metabolism gives no consistent findings which might be correlated with the onset or presence of malignancy. It is true that cancer of the thyroid is of a relatively low grade of malignancy; usually grade one or two. It frequently extends along the lymphatics or the blood vessels to the immediately surrounding tissues and adjacent lymph nodes.

The distant metastases are late and less frequent. Prognosis is relatively good where the gland can be resected, even in the presence of local extension provided the node bearing areas can likewise be removed. Irradiation by X-ray and radium retard extention and minimize recurrence, but we seem unjustified in allowing any adenomatous goiter to be neglected until malignant change has developed.

SUMMARY: With few exceptions, chiefly the rate of growth and the age of the patient, the treatment of adenomatous goiter is surgical, particularly in the nodular goiter involving both lobes, or the single adenomata greater than 3 cm. in diameter, and those appearing in patients past 30 years of age. The insidious onset of hyperthyroidism in adenomatous goiter often makes the diagnosis difficult in the early stages before crippling danger has been rendered to the heart and liver.

The classical clinical manifestations are not always present and add to the difficulty of diagnosis. The incidence of malignant change is as compared to that of benign nodular tumor of the thyroid as 1:36.7 and the fact that approximately 65 per cent of the cases which come to surgery have not been suspected preoperatively makes an additional risk in delaying attack on the adenomatous goiter until the time when the symptomatology is well established. Early surgery in this type of goiter is justified when we consider that the mortality in the hands of competent surgeons should be less than 1 per cent.

TREATMENT OF SECONDARY ANEMIA WITH LIVER EXTRACT*

WINSTON BLOCH

Louisville

The treatment of secondary anemias with liver extract has recently been supported and strongly advocated by Drs. Murphy and Minot. At the June, 1934, meeting of the American Medical Association Dr. Murphy presented evidence both experimental and clinical of its effectiveness.

The following is an example of such therapy on two cases of anemia secondary to empyema. Along with the treated cases two controls were recorded. These controls having anemia secondary to empyema also.

The reticulocyte count was used as a yardstick to measure regeneration of red blood cells. Daily reticulocyte counts were made. These counts were made by placing several drops of blood on slides stained with a saturated solution of cresyl blue. The normal count is from 1 to 2 per cent reticulated cells among 500 erythrocytes. The reticular structures stain blue and are easily recognized in the pink stained corpuscles.

The accompanying chart shows the daily fluctuation in the reticulocyte counts. The dates when liver extract was given, and the red blood counts are shown on the table I.

The liver extract was donated by the Eli Lilly Co. The dosage used was 1 c. c. of liver extract for intramuscular use bi-weekly. All children treated were receiving iron and ammounium citrate fifteen grains, three times daily.

The first of the cases to receive liver therapy, Peggy Whitley, was admitted to the Children's Free Hospital, May 30, 1934, diagnosed as empyema. The child received routine treatment, but failed to recover rapidly. Upon the advice of Dr. Andrews and Dr. Bruce, liver therapy was commenced on the twenty-fifth of July. By the second of August the patient's reticulocyte count had risen to 3.1 per cent from 1.4 per cent at the onset of liver therapy. The patient appeared better, her color was improved and her activity had increased. Liver therapy was continued, 1 c. c. of concentrated liver extract being given intramuscularly bi-weekly, as indicated on the chart. The average count during the three weeks period from August 1st through the 21st was about 2.4 per cent,

*From the Children's Free Hospital, Louisville, under the direction of Drs. Bruce, Barbour and Andrews.

rises from two to three days following the administration were noted. The patient was dismissed August 22, with a blood count of 4,000,000 red cells and a white count of 5,000.

The second case that received liver therapy was of a much more chronic nature. John Pipkin, who had a tuberculous empyema and a tuberculous hip. This patient received the same bi-weekly dosage of liver extract. His count rose from 1 per cent at the start of therapy on the 26th of July to 3 per cent on the second of August. At this time the patient was much more cheerful than formerly and exhibited physical signs of improved nutrition. There were greater fluctuations in the rise and fall of the reticulocyte counts of this patient than in those of the preceding, but the average counts for the period of liver therapy were above 2.5 per cent. During the administration of the liver extract the individual continued to show signs of increased well being as exemplified by increased activity, appetite, and mental brightness in contrast to lassitude and listlessness; red blood cells 3,900,000 on August 20th at termination of liver therapy.

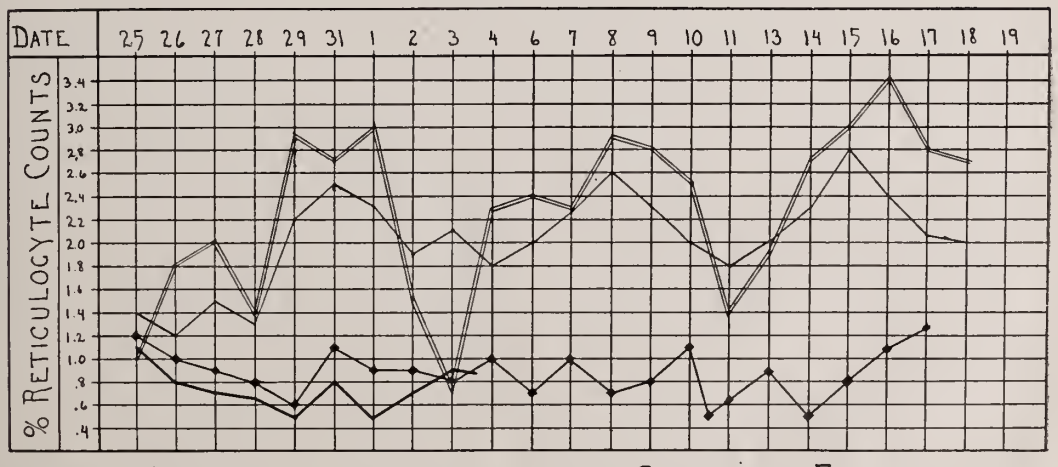
Two controls were run. The first of these Clyde Fox was being treated for empyema. His reticulocyte counts for the period July 26th to August 17th averaged slightly under 1 per cent. His condition, while he never had the anemia that the treated patients had, did not improve as rapidly. His appetite was consistently fair, but not accelerated and he did not perk up as those treated with liver therapy seemed to.

TABLE I

TREATED CASES:—	JULY											AUGUST										
	25	26	27	28	29	31	1	2	3	4	6	7	8	9	10	11	13	14	15	16	17	18
*1 PEGGY WHITLEY																						
% Reticulocyte Count		1.4	1.2	1.5	1.3	2.2	2.7	3.1	2.3	1.9	2.1	1.8	2.0	2.5	2.8	2.5	2.0	1.8	2.0	2.5	3.0	2.0
Red Blood Counts	2,800,000				3,200,000										3,900,000						4,200,000	
Date of Admin. of Liver	x				x			x			x				x				x			x
*2 JOHN PITKIN																						
% Reticulocyte Count		1.0	1.8	2.0	1.4	2.9	2.7	3.0	1.5	.8	2.3	2.4	2.3	3.1	3.0	2.7	1.6	1.9	2.8	3.0	3.5	3.0
Red Blood Counts	1,600,000											2,500,000									3,900,000	
Date of Admin. of Liver	x				x			x			x				x				x			x
CONTROLS:—																						
*1 CLYDE FOX																						
% Reticulocyte Count		1.2	1.0	0.9	0.8	1.1	1.3	0.8	0.6	1.1	0.9	0.9	0.8	1.0	0.7	0.8	0.5	1.1	0.9	0.7	0.8	1.1
Red Blood Counts	3,700,000				4,250,000			4,720,000						4,500,000							4,400,000	
No Liver Admin.																						
*2 EDNA HEIL																						
% Reticulocyte Count		1.1	0.8	0.7	0.7	0.5	0.8	0.5	0.7	0.9	DISCHARGED											
Red Blood Counts	3,000,000					3,750,000					R.B.C. at Discharge 3,800,000											
No Liver Admin.																						

TREATMENT OF SECONDARY ANEMIA WITH LIVER EXTRACT

GRAPH PRESENTATION



The other control Edna Heil being treated for empyema also, had an average reticulocyte count of .7 per cent over the period July 26, 1934, through August 8, 1934. No changes were noted in the patient, as the period of observation was so short.

Conclusion: In the use of liver extract in the two cases of secondary anemia following empyema, a definite increase in reticulocytes was noticed, two to three days following the administration of the extract. The anemias themselves were improved.

Increase of reticulocytes is evidence of increased activity of the bone marrow.

GIANT URTICARIA DUE TO FUNCTIONAL DYSMENORRHOEA*

HARRY S. FRAZIER, M. D.

Louisville

The great advances in female endocrinology of recent years has been a source of considerable gratitude to those of us doing a fairly general type of medical practice. (1) We have available the products manufactured from the urine of pregnant women, these contain the anterior pituitary activating hormone which stimulate the ovary to form Graaphian follicles and corpora lutea and are therefore estrus inhibitory in immediate effect but through its follicle producing action initiates a more effective and normal cycle. (2) Then we have the products of amniotic fluid containing an estrus inducing hormone which stimulates uterine growth and proper ovarian hormone production. A product of this latter type has given me rather brilliant results in a case of giant urticaria associated with dysmenorrhoea.

Miss E. C., age 32, spinster and school teacher had for nearly two years suffered with urticaria and occasionally mild bronchial asthma for 4 or 5 days each month. These attacks occurred on the second and third day of the mense and continued about two days after the flow had ceased. Her periods had established themselves tardily at the age of fifteen, had always been remarkably regular but the flow was always quite scanty and accompanied by considerable pain at the onset.

This patient was first seen by me about midnight, on December, 1, 1934. She was in a frenzy of itching with a giant urticaria on face, lips, chest, abdomen, hips, fingers and toes. She also complained of some difficulty in breathing and a few coarse musical rales could be heard in the chest. She was given 1 c. c. of adrenalin in 0.5 c. c. doses about twenty minutes apart and 3 grains of sodium amytal. A saline purge was ordered in morning and calcium gluconate given intravenously.

A detailed history revealed that the endocrine origin of these attacks had been considered by her former physician (now retired), and various glandular preparations including corpus luteum, ovarian extract and mixed gland formulas had been tried without avail. Also that the urticaria and asthma always appeared during night, subsiding almost completely during the day.

Physical examination. Weight 105. Height 5′ 1″. Heart rate 78. Eyes myopic. Ear, nose and throat, negative. Thyroid not enlarged. Basal rate x 8. Lungs clear. Heart normal, sinus rhythm. No murmurs.

The significant features being a general appearance of physical immaturity, very small, firm breasts, scanty growth of pubic hair, straight hips, infantile uterus and external genitalia.

Blood Count. Hbg. 90. R. B. C. 4,810,000. W. B. C. 7,100.

Urinalysis. 1016— acid— albumin, sugar, acetone and diacetic all negative.

After considering the history of late appearance of menses at fifteen, urticarial attacks accompanying the menses, the scanty and somewhat painful flow unaffected by various glandular therapy—together with her exceedingly immature physical and sexual development, lack of interest in the opposite sex, led me to infer a fundamental lack of estrus—inducing follicular hormone and to institute therapy of that nature.

She was given 50 rat units of preparation P intramuscularly and reported a somewhat better night and less nervousness during the day, the next day 50 R. U. more and a good night was had with no urticaria at all. On the third day the medication was purposely withheld and there was considerable disturbance that night, though the hives were not as large or thick as before. Treatment was resumed and the flow then having been over for two days it was decided to administer an ampoule containing 25 R. U. twice a week until seven days prior to the numerical date of her next period when the same dosage should be administered each day. This was done and there were no disturbances noted at the January mense. During the next month we gave one dose a week and three in the week prior to the next expected period.

*Read before the Louisville Medico-Chirurgical Society.

This was a normal one and patient thought flow was greater.

At this time, March 1st, we were forced to omit medication due to absence from city for two weeks and there was slight itching of fingers and toes for three nights.

The patient was then placed upon the tablet form of the same preparation containing 45 R. U. which she took one daily through until June with no symptoms and improvement of menstrual flow, and I thought some improvement in the size and consistency of her breasts. This patient then decided to stop medication which she did from June till latter part of August, with no disturbance until the September period at which time she had so severe a disturbance as to require the use of Ephedrin, Calcium Gluconate and so on in addition to a 75 R. U. injection on two days. The response was not so magical in its nature this time, though the symptoms gradually abated in 7 days. Our regime has been worked out now to cover a year's time before the patient will attempt it without medication.

This case to my mind indicates that we are approaching specifity in the field of female endocrinology. The toxic effect upon the sympathetic nervous system of an ovarian dysfunction has been in this case very satisfactorily controlled and I am anxiously awaiting a little more time to elapse to note possible developmental changes in the general make up of the patient.

DISCUSSION

R. Glen Spurling: Dr. Frazier's report is a most interesting one. During the past year we had a case along similar lines in a girl, who came under our observation for suspected pituitary tumors. While this suspicion was quite justified by the symptoms presented, we were unable to demonstrate a pituitary tumor. There was no evidence of pressure in the pituitary region, no eye symptoms and no history of headaches of the peculiar pituitary type. She was a little past nineteen, had never menstruated and was a typical dys-pituitary case. She was referred to an internist for endocrin therapy and under the administation of the placental extracts (which is also manufactured from placentas) along with X-ray treatment of the pituitary gland, she began to menstruate at the age of twenty, and within three or four months had lost between forty and fifty pounds in weight, presenting a completely changed appearance.

I am convinced that the combination of endocrin and X-ray therapies was responsible for the remarkable change in this patient.

J. Garland Sherrill: Forty years ago in the presence of free bleeding from the uterus in a girl or woman in the absence of pregnancy or ectopic gestation, we simply gave her an anesthetic, scraped out the uterus, let her alone and she got well. In Dr. Frazier's case it is possible that the result is attributed to the wrong thing. In most of these cases there is a slight endometritis or a little exfoliation of the mucosa and when the uterus is cleaned out, they get well. I recall a woman who had been bleeding for six months and came to me for an abdominal operation, and after a handful of placenta had been removed from her uterus she did not need further operation.

Don't let your sympathy or your timidity prevent you from examining a woman under an anesthetic, no matter how young she is, if there are positive indications for such procedure.

Guy P. Grigsby: Among my patients there are three women who are suffering from menorrhagia and who report to me regularly at each menstrual period for the control of the excessive menstruation. Various types of hormone medication were administered in these three cases before menstruation occurred, without any apparent effect upon the amount or duration of the menstrual period. One of the endocrine products containing the anterior lobe of the pituitary was then given at the beginning of the menstrual period. Daily doses for three successive days all three cases materially shortened the period within normal limits.

I would therefore suggest that in those cases where endocrine therapy is indicated, and no results are obtained when given previous to menstruation, that it be used during the menstrual period, as this will probably prove effective in controlling the prolonged periods.

Morris Flexner: It appears that, while Dr. Frazier reported a case of hypo-ovarion function, the discussion has been mainly concerning hypo-pituitary function. However, the two are very closely related.

I would like to ask Dr. Frazier how he explains the development of urticaria in his case, whether he made use of any skin tests to determine the type of sensitization. He said he thought the urticaria due to the ovarian dysfunction, and I wondered how he could explain it on that ground alone.

H. S. Frazier (In closing): Answering Dr. Flexner, I did not attempt any skin sensitization tests in this case because the patient gave such a clear history of this urticarial disturbance only during her menstrual periods over such a long period of time that it appeared perfectly obvious the two were closely connected, and I did not feel justified in going very far afield in investigations.

The product I used in this case was Amniotin which is made from foetal amniotic fluid. Other preparations are made from the urine of pregnant women.

SILICOSIS*

Oscar O. Miller, M. D.

Louisville

Silicosis or miners consumption is a much more prevalent affection in the state than has heretofore been recognized. The condition is often erroneously diagnosed as tuberculosis. Silicosis has assumed an important place in the industrial fields in Kentucky due to the passage of a recent law making the disease compensable in this state.

The American Public Health Association has defined silicosis as a disease due to breathing air containing silica (SiO_2) characterized anatomically by generalized fibrotic changes and the development of nodulation in both lungs, and clinically by shortness of breath, decreased chest expansion, lessened capacity for work, absence of fever, increased susceptibility to tuberculosis and by characteristic X-ray findings.

Since the disease is a progressive one, it is customary to divide it into three stages, each of which exhibits more or less characteristic clinical roentgenological changes. In South Africa and Canada these changes are defined as anteprimary, primary and secondary, in the United States we recognize them as first, second and third stage. Since varying degrees of disability attend each stage, it is requisite that we have a clear understanding of them for the purposes of prevention, treatment and compensation. The committee on pneumoconiosis defines them as follows:

First Stage: The symptoms few and indefinite, the man apparently quite well, working capacity not noticeably impaired. There is usually slight shortness of breath on exertion, unproductive cough, recurrent colds, slightly lessened chest expansion. The X-ray shows very heavy hilus shadows with a generalized arborization throughout both lung fields with varying degrees of fine nodulation. This fine mottling of fibrous tissue is a requisite for the diagnosis of silicosis.

Second Stage: There is definite shortness of breath on exertion, pains in the chest, a dry morning cough, sometimes with vomiting, recurrent colds, noticeable decrease in chest expansion, and a lessened capacity for work. The X-ray findings are similar to that described under first stage, only better defined. The mottling is medium sized, with occasional patches of pleural thickening or a coalescence of individual nodules.

Third Stage: Shortness of breath is distressingly marked, cough more frequent, expectoration slight to copious, capacity for work permanently impaired, expansion is greatly decreased; in addition he may show loss of weight, increased pulse rate and some cardiac dilatation. The roentgenogram exhibintense coarse mottling with large nodules due to coalescence and large patches of density due to dense fibrosis and thickened pleura.

The silicia dust in order to bring about the disease must be fine enough to pass the natural barriers and penetrate the bronchioles and atria, such dust is usually less than ten microns.

While silicosis has existed from the earliest times, and is world-wide in its distribution, we may say that there is no racial susceptibility to it except that those races with a low resistance to tuberculosis seem to show a higher incidence of silicosis; this is particularly true of the Negro. Since, however, the silicotic individual is extremely susceptible to tuberculosis, fully 85 per cent of them succumbing to this cause, this may be the deciding factor in the Negro rather than silicosis.

As contributing causes in the development of silicosis, Lanza lists pre-existing pulmonary disease, especially tuberculosis, other pneumoconioses such as anthracosis, nasal obstruction, and syphilis.

Pathology: The pathological changes brought about by the inhalation of silica are not alone mechanical but in a large measure chemical, in that the silica is slowly soluble in the alkaline tissues. The linear fibrosis and nodulation as observed on the X-ray film become perfectly intelligible from Gardner's classic description of the pathology pneumoconiosis. "On inhaling silica dust, the finer particles reach the respiratory bronchioles and finer air spaces given off from them. At first there is a marked tendency for initial localization to occur in the subpleural air spaces and within their lumens the particles are phagocytosed. Since these particles of silica are sufficiently irritating, they stimulate ameboid activity, the active cells collecting in nodular masses about the lymphoid tissues at its periphery; here it should remain within the lumen until it either settles out in lymphoid tissue or reaches the tracheobronchial lymphnodes at its termination. When the number of particles is excessive, many phagocytes with their ingested material pass through the wall of the vessel into the surrounding areolar tissue, where it provokes a reaction which may take on the form of granulation tissue which per-

*Read before the Medico-Chirurgial Society Oct. 26, 1934

haps, organizes as a scar. This reaction is linear in distribution and tends to thicken the structures through which the lymphatic trunks pass, namely the bronchi, pulmonary artery and veins, the interlobular septa and the pleura. The type of linear perilymphatic reaction occurs in the early stages of silicosis but is later overshadowed by nodular formations. Such abnormal migration is intensified by obstructive lesions in the intrapulmonary and mediastinal lymphoid tissues."

The development of silicosis depends primarily upon the dustiness of the air and the fineness of the particles, ordinarily it requires about ten years, but numerous cases of silicosis are recorded in the literature resulting from very short exposures of a few months to a few years where the exposure has been excessive.

It is interesting to note that the onset of symptoms may be delayed for many years after the victim has been removed from his dusty occupation. Britton and Head report four cases of silicosis and silicotuberculosis which developed ten to twenty-three years after relatively short exposure to silica dust, namely: four months, two years, four years and ten years exposure. Respiratory infections seem to play a part in precipitating the symptoms. Lawson et al, report similar findings in air drill operators in iron ore mines working four or five years in an atmosphere heavily laden with iron ore and silica dust, who developed distressing symptoms of lung fibrosis after discontinuing mining and living four to eight years under apparently good physical and hygienic conditions. From this we must conclude that the absence of symptoms in individuals who retire from years of dust exposure has little bearing on the prognosis or progress of their disease. The outstanding feature of silicosis is its progressiveness and the greatly increased susceptibility of the individual to pulmonary tuberculosis.

X-ray findings: The roentgenogram of silicosis shows heavy hilus shadows with more or less heavy linear markings with distinct nodulation scattered along their course. It cannot be sufficiently emphasized that this coarse nodulation is essential to the diagnosis of silicosis with but few exceptions. Exceptionally those cases of acute silicosis, due to an overwhelming dust exposure, may develop so rapidly that the dust is deposited in the interstitial tissue setting up an interstitial fibrosis without nodulation. Since the interstitial type of disease occurs infrequently, it is necessary to insist that a diagnosis of silicosis is not warranted without nodulation. In the third stage cases large areas of dense fibrosis and patches of densely thickened pleura are encountered simulating consolidation which are frequently diagnosed as pulmonary tuberculosis. If one attempts to diagnose first stage silicosis on hilus shadows and linear fibrosis, he is confronted with the necessity of differentiating this from chronic bronchitis, asthma, capillary fibrosis in the aged, and passive congestion.

The supervention of tuberculosis on the silicotic lung may be suspected when the nodules lose their clear cut line and become hazy and tend to coalesce to from larger, irregular nodules. The silicotuberculosis usually occurs in the infraclavicular region or lower aspect of the lung. This is associated clinically by increased cough and expectoration and progressive loss of weight and strength, and low grade fever. The sputum infrequently contains tubercle bacilli although these should be persistently searched for; in fact the post mortem examination of patients succumbing to silicotuberculosis rarely discloses the presence of bacilli even in the caseous nodules.

Diagnosis: The occupational history of the patient is exceedingly important in arriving at a diagnosis. This must embrace all the various jobs the individual has undertaken, the dustiness of the work and environment, and the number of years engaged in the particular industry. Patients frequently change occupations, giving their present employment as their occupation which has no bearing on the questionable pulmonary changes observed on the roentgenogram. Further interrogation frequently uncovers a previous dusty occupation with exposure to silica that renders the suspected diagnosis certain.

Not all dusty trades are hazardous and the fact that a man gives a history of mining is of little help unless we know the nature of the work and whether silicious dust was present. To estimate the hazard requires thorough familiarity with the job and the conditions under which the employees work.

The simple statement that a woman works in a soap factory lends no support to a diagnosis of silicosis to the uninitiated, inquiry however, reveals that very finely powdered silica is used in the manufacture of scouring soaps, and its preparation in the mixing room constitutes one of the most hazardous occupations in the industry. On the other hand an occupation may have a silicosis hazard and yet the industry be so well conducted that very little dust is produced.

The chances of finding tubercle bacilli in the sputum of patients with silicotubercu-

losis will depend on the progress of the tuberculosis and the presence of cavitation. In patients with profuse expectoration and with evidence of breaking down, it is advisable to examine the sputum for dust particles by the micro incinerator method of Burke who found many minute birefringent particles in the sputum of nine out of fifteen suspected cases of silicosis. In six there was cavitation on X-ray and seven contained acid fast organisms in the sputum.

McNally calls attention to the importance of including a quantitative chemical determination for silicon dioxide on silicotic lungs at autopsy as an aid in arriving at a correct diagnosis. The average silicon dioxide content of twenty-one samples of non-silicotic lungs was 1.13 milligram per gram of dried lung, and he considers any lung containing over 2 mg. indicates undue exposure to a dusty atmosphere. His analysis for a stone cutter was 14 mg. and for a granite cutter 26 mg.

In the final analysis the diagnosis of silicosis rests with the stereo roentgenogram, correlated with the occupational and clinical history. No disease can be readily diagnosed unless its presence is suspected. To keep silicosis in mind will lead to fewer cases being incorrectly labeled as tuberculosis.

The following case histories and their roentgenograms are presented as illustrating the various stages of silicosis and silicotuberculosis.

There are thirteen cases in all, seven of the histories are given for the purpose of conserving space since they are more or less typical. These represent the first, second and third stages. There has been no attempt to reproduce the roentgenograms as the early stages do not lend themselves well for the purpose of reproduction as the fine nodulation is not easily reproduced in the cut.

Of the thirteen cases presented eleven were negroes and two white. Four of these had positive sputum, five were persistently negative, the four others had no record. Eight, or 61 per cent have succumbed either to silico-tuberculosis or silicosis and an incurrent infection. Five are living, two of whom are working, two incapacitated and one has been lost. Classified on the basis of their silicosis there were seven third stage, three second stage and three first stage silicosis.

Case 48,776, G. B., colored, male, age 43. Examined June 25, 1934. Present illness began three years ago with pain in lung and cough. Present complaint is cough. States that he previously had influenza and pneumonia. His normal weight is 190 pounds, present 158. He has lost 32 pounds in three years. Complains of dyspnœa on exertion and lying down. Appetite and digestion good. He expectorates a cupful a day, (this, however, is questionable.)

Occupational history: Patient is a tub-grinder and has worked at a local plant for six or seven years. Says he first worked on sand-blast one year and then ground tubs from 1924 to 1931.

Physical examination: Shows slight impairment in apices and both root regions; with a few fine inspiratory clicks, inferior angle, left scapula and a few inspiratory rales in base. A few fine rhonchi in right base, front; with wheezy inspiration. Complains of tenderness in left anterior axillary line in base on percussion.

X-ray showed heavy hilus shadows with heavy streamers in all directions to third zone with fine nodulation along their course characteristic of a first stage silicosis. Blood pressure 114-86.

His present condition causes no disability. On advice patient has left present employment and will seek another position.

43,590, J. S., colored, male, age 32. Examined May 4, 1933.

Present complaints: Illness began two weeks ago with a deep cold. Has some cough and slight expectoration, about one-half ounce, has night sweats, complains of being weak, sleeps poorly, appetite poor, has no haemoptysis. At the time of examination, May 4, 1933, afternoon temperature was 101.6, pulse 96, respiration 24.

Occupational history: Patient worked as laborer at a local manufacturing company for eleven years where there are opportunities for exposure to silica, although the history omitted dust exposure.

Physical examination: Showed slight impairment on the right, rib three, and dorsal spine eight to apex, a few scattered medium rales on inspiration from rib four and dorsal spine eight to apex. Heart normal. Blood pressure 118-80-38. Findings were suspicious but not diagnostic of pulmonary tuberculosis.

X-ray film shows a first stage silicosis as manifested by heavy truncal markings and peri-bronchial beading.

The present condition is not incapacitating. The patient has been lost.

Case 46,747, C. T., colored, male, age 40. Examined Feb. 3, 1934.

Present complaints: Has had shortness of breath since a child. Had influenza in army 1917. Patient states that he has a slight

shortness of breath but does not pay any attention to it these days due to the fact that he is stout. Patient well developed and well nourished, weight 220¼ pounds.

Occupational history: Sand-blaster from 1919 to 1923 on handblower at a local manufacturing company.

Physical examination: Negative except for feeble breath sounds and a mild wheezy bronchial cough. Chest circumference full inspiration 44, expiration 43. Blood pressure 130-110.

X-ray film shows heavy root shadows with a marked exaggeration of linear markings. Considerable fine mottling scattered in the lung fields indicative of an early first stage silicosis which is apparently not producing symptoms.

Diagnosis: First stage silicosis.

Present condition: Patient is working full time and disease is not incapacitating.

47,877. C. R., colored, male, age 37. Examined April 24, 1934.

Present illness began five weeks ago with pneumonia. Present complaints are slight cough, pains in the left side, dyspnoea on exertion and lying down, loss of weight and loss of strength. Normal weight 149, present weight 119½, has lost 27 1/2 pounds in five weeks. Appetite and digestion good. Has slight expectoration, ounces one-half, yellowish.

Occupational history: Patient states that he worked at a local manufacturing company for twelve years, was exposed to considerable dust. Says he was trucker for the sandblast machine until three or four months ago. For the past four months has been a tub-buffer, rubbing tubs down with an emery wheel. Patient states that he felt well up to the time that he did this last work.

Physical examination entirely negative except for some slightly diminished resonance in the right apex. Breath sounds were feeble, no adventitious sounds, no bronchial cough. Blood pressure 128-78.

Fluoroscopic examination showed moderately heavy roots with a suggestive granular appearance of the lung fields. X-ray film, April 24, 1934 shows the characteristic heavy linear markings with nodulation in the lung fields with inflammatory reaction in the left base, probably pleuritic. Re-X-ray September 1, 1934, four and one half months later shows clearing in the left base but persistence of the characteristic nodulation throughout both lung fields. The apices have apparently escaped. The findings are indicative of a second stage silicosis. Twelve sputum examinations were negative for tubercle bacilli.

His present condition is not totally disabling. On advice, patient has left present employment and will seek a position as chauffeur. The lesion, however, can be expected to slowly progress and prove incapacitating later.

Case 38,927, W. McC., colored male, age 33. Examined April 11, 1932.

Present complaints: Began three months ago with tiredness, cough, fever, pain, vomiting his meals for the past two months, expectorates about one-half teacupful, has had blood streaked sputum the last day, has shortness of breath on exertion.

Occupational history: Sandblaster at a local manufacturing plant for two years and then entered cleaning and pressing business for three years. Patient developed fever and from April 11th to May 9th ran a temperature from 101 to 102. Pulse 104 to 110. Had cough and night sweats.

Physical examination is essentially negative except for a few dry inspiratory rales in the right first interspace.

X-ray shows very heavy root-shadows with considerable coarse mottling both lungs from base to apex typical of a second stage silicosis.

Patient died May 28, 1932. There is no history of sputum examinations.

Conclusion: Second stage silicosis.

Case 27,835, R. W., colored, male, age 56. Examined April 16, 1929

Present complaints: Illness began with cold, has cough which is worse at night says he expectorates a good deal. Dyspnoea on exertion, no night sweats, sleeps fairly well, has loss of strength, complains of pain in chest. No definite history of haemoptysis.

Occupational history: foundry worker at a local manufacturing company.

Physical examination: Shows diminished resonance in right apex, dorsal spine four to apex. Breath sounds, tactile fremitus, vocal resonance normal. No adventitious sounds. No bronchial cough. Slight clubbing of fingers. Heart normal. Blood pressure 112-78-34 Temperature, afternoon, 99.6, weight 158 pounds. Patient placed on bed rest 4-16-29. His temperature from then on remained apparently normal. He rested until June 27, 1929 when he returned to work saying that he felt well.

Subsequent follow-up notes:

March, 1930: Reported that he was working and feeling well.

September, 1931: Wife stated that he was feeling just fine and working every day.

October, 1931: Temp. 98. Pulse, 96. Respiration 20. Weight 170, gain of twelve pounds.

November, 1931: Patient was not doing well and was urged to enter Waverly Hills Sanitorium. His temperature remained normal. At this time he was ill on the couch at home awaiting admission to Waverly Hill.

December 3, 1931: Admitted to Waverly Hills and discharged August 1, 1932. All his sputums were negative while in the Sanitorium. His admission weight was 180, his discharge was 195.

April 3, 1933: Patient returned to work and said he felt well. At the beginning of cold weather 1933 he began to cough again and was losing weight. By December his breath became offensive.

January 25, 1934: Patient reported to the clinic. Temperature 98, pulse 84, and respiration 24. He had no cough, had night sweats, slept poorly.

Feb. 9, 1934: Patient was confined to his bed coughing a great deal, breath very offensive. At this time ten specimens of sputum were examined, all of which were negative. Sputum was mucoid in character and occasionally muco-purulent.

March 15, 1934: Temperature 98, pulse 90, respiration 20. Patient still in bed, essentially the same.

Re-examinations from time to time have been essentially negative except for slight impairment in the apices. There are a few dry superficial rales in the left upper. This patient was incorrectly diagnosed as minimal tuberculosis in 1929. Considered as silico-tuberculosis in 1931.

A review of the case and the films from 1929 to 1934 shows a typical sound stage silicosis with characteristic mottling throughout which shows a definite progression from 1929 to date with several large nodes developing in the right third interspace which may be silica nodules although silico-tuberculosis is a possibility.

Present condition: July, 1934: Patient is feeling better, still losing weight. His disease incapacitates him although he is not totally disabled.

Case 22,425, H. M., colored, male, age 63. Examined July 2, 1927.

Chief complaint: Cough, shortness of breath, sputum streaked with blood, weakness.

Occupational history: Worked at a local manufacturing company for twenty-five years. Was operator of sand-blast machine for three years.

Physical examination showed slight impairment in apices and root region. Breath sounds wheezy with a few inspiratory rhonchi over the base. Chest emphysematous in type. Heart normal. Blood pressure 140-68.

The X-ray shows the typical heavy hilus shadows with heavy linear markings and coarse nodulations throughout which is characteristic of silicosis although this was not suspected at the time of examination. Patient was kept under observation and due to increase in symptoms was admitted to Waverly Hills Sanatorium for observation in 1928. Discharged to his home in 1929.

Re-X-ray five years later showed considerable increase in pathology, the heavy density and fibrosis in the left mid chest showing a characteristic progress and classified as third stage silicosis.

Chief complaint was marked dyspnoea and asthmatic symptoms. In February 1933 patient was delirious during the night and died February 21, 1933, with advanced silicosis or more probably advanced silicotuberculosis.

Conclusions

Silicosis is a progressive incapacitating disease of considerable importance to the profession and industry since it has become a compensable disease in Kentucky.

Silicosis is also of considerable importance to labor as it is definitely incapacitating and in our small series has shown a mortality of sixty one per cent.

It will be necessary for industries with a definite silicosis hazard, to introduce measures to protect their workmen from silicosis dusts and themselves from suits and damages.

To this end the plant employment bureau should take an occupational history of the applicant for work in silicious dust and exclude those who have worked in mines or previous dusty trades thought to be hazardous.

Since the negro is peculiarly liable to tuberculosis and hence shows an increased susceptibility to silicosis, he should not be employed for work in silicious dust unless adequate protection can be provided.

It will be necessary for the protection of both employer and employee, for the plant to either establish an X-ray department with a competent roentgenologist as consultant or to contract for this work to be done by an X-ray laboratory.

Where the plant employs an industrial physician it may be possible for him to undertake the necessary X-ray examination in his office and the company to provide a consultant.

All prospective employees for work in silicious dust should have an X-ray of their chest in addition to complete physical examination and an occupational history.

Once assigned to the job the employee should be re-X-rayed every year thereafter and upon the first roentgenological evidences of pulmonary changes he should be transferred to a non-hazardous job in the plant.

Employees who leave the plant of their own accord should similarly be X-rayed in anticipation of possible future suits.

It is possible to conduct a hazardous occupation in a non-hazardous manner; and the responsibility for this should rest with the plant physician.

DISCUSSION

W. E. Gardner: I am not prepared to discuss this paper from a scientific standpoint, but I cannot help but wonder what is going to happen as a result of the action of the last legislature in making silicosis a compensable disease. Unquestionably, it behooves any member of the profession who comes in frequent contact with these cases and is, therefore, likely to be called upon to occupy the witness stand and testify, to know all that is to be known about this disease. In only one of the cases reported by Dr. Miller was silicosis the true cause of death, all the others being attributable to tuberculosis. In the hands of a capable lawyer, such circumstances will undoubtedly often be twisted around to suit the occasion.

Some dusts in the air are not injurious; others, such as flour dust and aluminum dust, are inflammable and will explode when ignited; still others, such as silica and asbestos dust, are classified as toxic. There is no doubt that the medical profession will have to be "on its toes," so to speak and be well-informed on this condition, or else stay off the witness stand.

James E. Winter: Dr. Miller very kindly invited me to be present tonight to show you microscopic sections from a case of silicosis that I have had under observation for a period of eight or nine months.

This man came to me in April, 1933, with a history of gradually increasing shortness of breath, extending over a period of three or four months with progressive weakness which had reached the point where he experienced difficulty in walking. He was a well-developed muscular man of 54, with a history of having followed his occupation of granite-cutter for 36 years, never having cut any other type of stone. During most of this time he had worked in sheds, closed to the weather on three sides and open on one side during the summer; in winter time a sheet of canvas was dropped over this opening.

The patient was noticeably short of breath, even to talking. He had a cough which was constant, and he raised considerable sputum, probably three or four ounces a day. On physical examination his chest was flat throughout, with marked dimunition in the amount of respiratory expanson, which was limited to about one-half inch. Breath sounds were rather marked and there were some coarse rales particularly over the mediastinum and around the bronchial trees.

X-ray pictures of the chest showed marked mottling and an area of consolidation involving about one-third of the right lung.

There was not much to be done for this man. He was advised to discontinue his occupation but, being elderly and under the necessity of earning a living, he stuck to it as long as he could. Despite increasing symptoms he continued at work until about the middle of November, 1933, after which time his symptoms rapidly progressed. His last visit to my office was January 15th, 1934, at which time he could not speak more than two or three words without stopping to get his breath. On January 20th he developed an acute pneumonia, during the first day of which he ran a high temperature, and following that a sub-normal temperature, dying in less than three days.

I was fortunate in having arranged beforehand for an autopsy, which was done by Dr. A. J. Miller. A rather interesting thing about the specimen presented is the nodular appearance and feel of the lungs—just like feeling BB shot in the cut sections. There is some consolidation and also a pleural exudate. There are two or three small cavities which did not appear in the X-ray picture, so apparently the man did have a pulmonary tuberculosis complicating his condition. Repeated examinations of the sputa showed small particles of silica but no tubercle bacilli. In the left lung there was one area which very closely approached the normal consistency of the lung, and in tracing out the bronchus in this region we found it to be very tortuous, and it was evidently this tortuosity of the bronchus which had prevented the silica dust from getting into that particular portion of the lung.

A. J. Milller: I have seen but two cases of silicosis postmortem, which of course, represents only the terminal stage of the disease and from which we sometimes get quite erroneous impressions compared to what actually happens in the earlier stages of the disease.

Many contradictory opinions are expressed in the literature on this subject, most of them based on experimental work rather than on clinical observation. One group says the condition is progressive; that the tissue changes which result from the inhalation of silica dust do not heal when inhalation of the material is stopped. Of course, in experimental work we must remember that perhaps a less amount of dust is inhaled than would be inhaled by a workmen, under normal working conditions,

over a period of years, and that there are other factors in the clinical picture which are not reproduced in experimental work. Yet it does seem logical to assume that, with a substance, chemical in nature, and, therefore, not capable of increasing in quantity in the tissues, when the source of that substance has been eliminated, the damage already done by it would not progress; in other words, that the damaging material already present would be used up and gradually eliminated and that the lesion would then tend to heal. That is, however, contradictory to observations based on experimental work and leads us to wonder whether there may not be complicating factors which tend to keep the condition at work even after the source has been eliminated.

Contradictory opinions are also expressed in the literature as to what the substance is that produces the lesions. In an article appearing in the Journal of Hygiene during the past year the author makes the clear-cut statement that pure silica dust is practically inert and does not damage the tissues to any appreciable extent. He based this statement upon observations made in the mines of France and Wales. In some mines analysis of the dust revealed great quantities of silica and yet there was not a single case of silicosis among the workmen of those mines. In others, where the particles of silica in the air were comparatively few in number, he found silicosis very prevalent among the miners. Upon these observations he bases his statement that pure silica is not damaging to the tissues and that the substance which produces the lesions is a compound of silica dust with aluminum and water; that such a compound is very toxic and when given to animals experimentally, produces an acute inflammatory condition of the lung very much like tuberculosis, and unless these compounds are present in the dust, silicosis will not result.

The statement has also been made in the literature, I have forgotten by whom, that silica coming in contact with alkalies produces a substance that is damaging to the tissues, but only so long as it is alkaline. When it becomes acid its toxic properties disappear entirely, and once the silica compound has changed under the influence of an acid environment, it becomes absolutely harmless and the lesions previously produced gradually heal.

There is also considerable question as to whether silicosis may be a secondary etiological factor in infections such as tuberculosis, pneumonia, etc. If there were chemical damage to the lung in silicosis—if we could think of it as a chemical disease, we could understand how tubercle bacilli or pneumococci might be implanted more readily than in a healthy lung. It has been said that silica compounds of the type that will damage the tissues will result in a rapidly progressing acute inflammation almost identical with tuberculosis. Possibly in the earlier stages there is an acute reaction and polymorphonuclear leucocytic infiltration, with fibrous exudate and some serous exudate and occasionally hemorrhage, followed later by a small amount of caseation and still later by mononuclear leucocytic infiltration, with congestion of the bronchioles and the formation of tubercles; in other words, not a tuberculosis but a tuberculous-like condition histologically. There is not, however, the giant-cell formation which occurs in tuberculosis, and there is not a comparable amount of caseation necrosis, although there is some.

C. D. Enfield: I have seen very few cases of silicosis that I have recognized as such. I have regarded this condition as something to be thought of in chest films showing abnormalities out of the ordinary and careful inquiry into the occupational history of the patient is evidently the first step toward eliminating this condition. I agree with Dr. Miller that we should consider, not the present occupation of the patient, but rather what he has been doing over a period of perhaps ten or fifteen years, and the possibility of his having been inhaling silica laden dust during that period. I do not believe that anyone would be justified in making a diagnosis of silicosis in any case that might be classed as early from the X-ray films alone. In the second stage of the disease, the moderately advanced stage, when infiltration and nodulation have taken place with distribution neither in the apices nor near the bases but in the central zone out from the hilus, the X-ray diagnosis can be fairly positive. In the third stage it is again possible to confuse the condition on the basis of its X-ray appearance along with several other types of advanced pathology.

Like Dr. Gardner, I can see where the action of the last legislature in making silicosis a compensable disease is going to lead to many complications on the witness stand. Take the case of the man who has been exposed to a dust which has perhaps produced some changes in his lungs and he develops tuberculosis and dies. Who now knows enough about this condition to say whether his occupation was a determining factor in the causation of the fatal infection?

Joseph C. Bell: It has been a privilege to hear Dr. Miller's beautiful summary of the subject of silicosis, a condition which I have been interested in for a number of years. During the past two months I have been studying a group of about four hundred men employed by a local cement company. Owing to the fact that

cement companies throughout the country have been made defendants in numerous lawsuits based on the supposed prevalence of this condition in their employees, the local company deemed it wise, as a precautionary measure, to determine the exact condition of the chests of its workmen. Among this group of four hundred we were able to classify only two—and possibly a third—as exhibiting the very earliest manifestation of silicosis. The films were checked by Dr. Pendergrass, of Philadelphia, who has been studying this disease since 1915. We found fifteen cases of tuberculosis among this group, only two of which, however, showed active lesions.

After I had completed my work and classified all these films, I went to my office one night and reviewed them for the purpose of indicating the ones which showed exaggerated bronchial markings, and in checking the individual's occupation in these cases I found no apparent relationship between the length of service, the type of work done and the appearance of the lung markings. In cases that were at all suspicious and in which the bronchial markings were exaggerated, I recommended that the individual return for reexamination after an interval of not more than one year.

I agree with Dr. Enfield that the findings in the second stage of the disease are the most typical from an X-ray standpoint. In the third stage the diagnosis becomes more difficult, for secondary infection by the tubercle bacillus or other organisms supervenes during this stage and these organisms and not the silicosis are actually responsible for many of the abnormalities noted.

I do not agree with Dr. Miller that many of the films shown by him as illustrations of the so-called first stage of silicosis are diagnostic of this condition. Silicosis may be suspected but cannot be diagnosed by X-ray until nodulation appears. The so-called first stage is not characteristic of this disease for such changes may be seen in many other conditions.

Opium: 750,000 lbs. of opium are imported into the U. S. every year, maintains Harold Lyons Hunt, M. D., New York City, retiring president of the American Medical Editors' and Authors' Associtaion. Only 10,000 pounds of this opium are used legally, he avers, leaving an illicit business of 740,000 pounds annually.

Relief: 250,000 children were born to U.S. families on relief during 1934, declares Henry Pratt Fairchild, professor of sociology in New York University. Moreover, families now on relief rolls have from 48 to 60 per cent more children than self-supporting families of equal stratum, adds H. S. Bossard, professor of social sciences in the University of Pennsylvania.

THE ETIOLOGY AND SURGICAL TREATMENT OF ANAL FISTULA*

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The old adage that "there is nothing new under the sun" is quite true in the case of fistula in ano. The history of medicine reveals few pathological conditions of which the Ancients had more knowledge of and a more rational form of treatment for than anal fistula. With the exception of the operation of trephining, which goes back to the Stone Age, the methods of treatment and operations for fistula in ano were among the earliest to be performed. The first reference to anal fistula and its treatment is found in the Code of Hammurabi, dating back to the twentieth century B. C. Hippocrates wrote quite a dissertation in the fourth century B. C., part of which I quote: "But if there be already a fistula, the depth of it is to be ascertained by probing it with a stem of garlick. The primæ viæ must be cleansed, and afterwards the following method pursued: twist around a five-fold strand of very slender raw linen some horsehair, that it may not decay; and by means of a pewter probe thrust it into the fistula; at the same time put the second finger of the left hand into the anus, and when it has reached the end of the probe, which ought to be for that purpose a little bent that way, lay hold of the end of the linen and draw the needle down with the other. The remaining part of the treatment consists in tying the two ends of the string close to the anus, and in tightening the knot every day until the fistula is entirely destroyed. If this method should prove insufficient it is advisable to make use of the knife, for when the fistula does not get eaten through, having first examined it with a sound, cut down as far as it passes."

Four hundred years later, Celsus advised the use of the scalpel and ligature, the scalpel for the main tract, and the ligature for the accessory ones.

One thousand years after Hippocrates, Paulus Aegineta, probed the fistula, pulling the end of the probe out of the anus and cutting down on the sinus. He did not use ligatures.

Following the fall of Rome, during which time there was a "mental backsliding in things medical as well as in other departments of knowledge" the treatment of fistula was neglected. The results were poor

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following various types of heroic measures, and not until the time of John of Arderne in the fourteenth century were cures of fistula recorded. He went back to the treatise of Hippocrates and amplified his treatment. His method was to pass a ligature through the tract and then cut down upon the fistula. The bleeding was controlled by astringents. This treatment of fistula by Arderne more closely approximates the accepted present day treatment than any other found in history.

This method was apparently too radical for this time and we find that for the next 500 years fistula was treated by the conservative ligature methods and achieving the failures to be expected. Ambroise Pare, describing "Fistula in the fundament" in the sixteenth century, spoke only of the ligature method. Peter Lowe in 1612 described three methods of treating fistula, burning with a cautery, cutting, and ligature. Heister, in the eighteenth century, described fistula as complete and incomplete, simple and compound, and blind. Heister quoted from Dionis who says, "The French were so fond and proud of being in the Fashion, when their Louis XIV had a Fistula, that they boasted of the Disorder as a point of Honour, and would even undergo the operation when there was no real necessity."

In spite of the ancient lineage of the treatment of anal fistula, many surgeons cling to the conservative, incomplete methods with resulting failure in an alarming number of cases.

That an anal fistula results from an infection in the perianal tissues goes without question. The portal of infection is of doubtful origin to some minds, yet, if one is familiar with the anatomy of the anal canal it does not seem that there should be any great doubt as to the formation of the fistula. The fistula in itself, is the end result of this infection which has escaped from the anal canal with the subsequent formation of an abscess. The abscess is merely an intermediate step from the original infection to the formation of a fistula. The original infection is within the walls of the anal canal, being introduced by a break in the lining membrane.

In the complex development of the human body the invagination of the proctodeum meets and unites with the hindgut, the former overlapping the latter with a serrated margin. At this mucocutaneous junction, which has been given various names such as pectinate line, and dentate line, there are small pockets or crypts, known as the crypts of Morgagni. These crypts are valve-like structures with the open end pointing up. Between these crypts are the anal papillæ, also pointing upward from the skin margin, and in the mucosa of the lower rectum, just adjacent to this mucocutaneous junction, are the columns of Morgagni. These columns or folds are formed by the puckering of the rectal mucosa where the rectum narrows to join the anal canal. It is this point, in the anal canal, which is subject to the greatest trauma from abrasive particles coming through the anal canal in the fecal mass. Anything which might cause these crypts to be abraided or torn will allow infection to enter and cause a dissolution of tissue.

Tucker and Hellwig have recently called attention to the narrow, ductlike structures which open into the anal crypts. They found them to be either simple tubules or complex, branching ducts which extended from the mucosa of the anal crypts, passed into or through the muscular coat of the bowel, and ended blindly in the connective tissue. They stated that the form of these anal ducts, especially that of the branching variety, resembled so closely that of excretory ducts of glandular origin that it seemed unlikely that these structures were the result of an ulcerous process burrowing from the Morgagni crypts into the surrounding tissue. They found similar anatomical structures, more fully developed, however, in dogs, cats, guinea pigs, and rabbits. It is evident from these observations that in man these ducts are probably analogous to certain odorous sex glands of lower animals. They concluded that cryptitis, anal fistula and periproctitic abscesses have their origin in these preformed anal ducts, and that these ducts explain the frequency of anal infection. It is possible that infection deep in these ducts, will explain many cases of perianal discomfort which heretofore we have been unable to explain. Personal communication from other sources reveals the fact that other men have been unable to duplicate this work. Nevertheless, it is of great interest and should stimulate other workers.

It has been, and is the belief of most proctologists, that the portal of entry of the infection leading to formation of an anal fistula, is the anal crypts. Whether or not

this infection enters through an abrasion due to trauma of the crypt, or goes through the crypt to ducts leading from the crypt is not of such great clinical importance. The important point here is that the primary lesion of anal fistula is in, or about, the crypts which lie at the mucocutaneous junction in the anal canal. By far the greatest numbers of recurrences of anal fistulas are due to the failure to realize that the primary or internal opening of a fistula has to be eradicated before a cure can be expected.

Buie has taught that there are four steps in the formation of anal fistula. First, is the introduction of infection into the crypt. The crypt becomes adematous, the adjacent papilla becomes inflamed and adherent over the crypt, and more or less sealing the infection in the crypt.

The second stage is a process of burrowing. The infection spreads and extends into the tissue adjacent to the anus. This spread taking place either through the substance of the external sphincter muscle, above it, or below it, and out into the perianal or perineal tissue.

The third stage, that of the abscess formation, takes place after the infection has spread out into the less resistant soft tissues of the buttocks or other surrounding structures. With this infection in or around the sphincter muscle, there is a spasm of this muscle which probably chokes off the tract at this point, preventing a return flow of the pus to the anus. This probably accounts for the fact that the resulting abscess points in an area distant from its origin and is subsequently incised, or spontaneously ruptures through the skin of the buttocks or at a point higher up in the bowel.

The fourth stage, is either the spontaneous rupture of the abscess or its incision. With the appearance of this secondary opening, regardless of its situation or manner of development the fistula is complete. Buie further states that the supposed incomplete, external fistula is an impossibility. Such a condition implies absence of a primary or internal opening, and the very nature of the disease precludes such a possibility.

The question of classifying fistulas has occupied the time of many men with a resulting confusion in the literature. Textbooks speak of blind internal, blind external, and complete fistulas, according to whether or not there is only an internal opening, only an external opening, or both. The blind internal type is usually the result of the infection being so virulent that it destroys so much of the muscle tissue that the pus, under pressure, overcomes what little resistance the muscle retains and escapes back into the anal canal. This type, I have found, usually results from the infection burrowing under the overhanging skin edge of an anal fissure, and should probably not be listed as a true anal fistula. The blind external type is not a true type. Occasionally the primary or internal opening will close over temporarily, the operator will make a cursory examination and finding no internal opening will make a diagnosis of blind fistula and do an incomplete operation. This diagnosis has resulted from lack of knowledge of the pathogenesis of anal fistula and, as previously stated, has accounted for the majority of recurrence. The complete fistula is, of course, the most common. This type may have multiple secondary, or external openings and only one internal opening. Occasionally two primary or internal openings may be present. If the abscess has extended up the rectal wall and ruptures into the rectum higher up, it is still a complete fistula, even though it has no opening on the skin surface.

Although this paper deals with fistula primarily, it is well to interpolate the handling of abscesses leading to fistula. If the abscess has pointed at the skin surface, a crucial incision should be made over the point of fluctuation and the edges trimmed away. The skin should be beveled back so that the opening in the skin is as large as the cavity. A packing of dry gauze should be put in, and nothing more done at that time. If the abscess is apparently pointing up the rectal wall, or some place other than the skin, it is wise to incise it, and have it drain through the skin, even though it is necessary to divide normal tissue. This is infinitely better than having it ruptured high in the rectal wall. The resulting cavity should be allowed to contract down considerably, usually taking place in one or two weeks, before the resulting fistula is attacked.

The preparation of a patient for fistulectomy is the same as for all other anal operations. No supper is permitted the night before. Cleansing enemas followed by an oil retention enema, and an average dose of one of the barbiturates are given before retiring. The morning of the operation the cleansing enemas are repeated, more barbiturates are given, and fortified by a small dose of morphine and atrophine. No laxatives or cathartics are given.

Sacral and caudal injections of 1 per cent procaine is the anesthetic of choice. It is painless and gives perfect relaxation to the parts without any distortion. Spinal anesthesia gives as good relaxation, but carries a higher risk.

The patient is placed on the table in the prone position with an elevating bar or pillows under the pelvis. No dilation should be done until the tracts have been traced for fear of distorting them. It is much better to probe without a retractor or speculum in the anus, as this may cause some distortion also. In searching for the primary internal opening, there are several technical points which are of definite aid. If an imaginary line be drawn through the tuberosites of the ischii, it will pass just a little anterior to the transverse midline of the anus. An external, or secondary fistulous opening, anterior to this line, in the greater number of cases, will lead by a straight tract to a primary or internal opening in the lateral wall of the anterior half of the anus. If the secondary opening is posterior to this line, the primary opening will be in the posterior median portion of the anus. If there are two secondary skin openings they most probably will be connected and the main tract will lead posteriorly. Buie states that about 50 per cent of the primary openings will be found in a crypt or crypts in the posterior median anal wall; about 20 per cent are in the anterior median wall, and about 30 per cent in the lateral walls. If the anus be divided into anterior and posterior halves, 70 per cent will be found in crypts in the posterior half. Some men place the percentage for the posterior median portion higher.

Hiller, in attempting to answer the question, proposed by Moschowitz of "why is the internal opening of the majority of anal fistulas constantly found just within the anocutaneous junction at a point corresponding to 5 or 7 on the clock, considered the posterior median line as 6 o'clock?" gave as a reason the fact that organisms, once they reach the submucosal space, follow the sheaths of the arteries supplying that region, and as the inferior hemorrhoidal arteries enter at the points mentioned he concludes that they follow these arteries out into the soft tissues. He does not make clear how the organisms get through the wall of the anal canal to reach these arteries. I believe the more logical explanation is that the posterior median portion is subject to the greatest amount of trauma and abrasions are more frequent here. After reaching the submucosal space, the sheath of the blood vessels probably afford the easiest route to the surrounding soft tissues.

Search for the primary opening is made in the crypts, at the mucocutaneous junction, by means of a soft, blunt wire probe suitably bent. Usually it is not difficult to see the opening. Frequently all that is seen is a tuft of granulation tissue in a crypt or some bleeding when the crypt is probed. The mistake usually made in looking for the primary, or internal opening, is to look too high. The dentate margin, or mucocutaneous line is rarely over one and one-half inches above the internal anal margin and any opening found above this is most probably a secondary opening resulting from an abscess which has pointed up along the rectum and subsequently ruptured through the rectal wall. The probing should be done gently so as not to make a false passage. The probe should be passed out through the tract and brought out the external opening.

Occasionally the primary opening has contracted down so that a probe can't be introduced. In this case it is permissible to probe from the external sinus, taking care that you do not push through the normal tissue. Some of the tracts are so tortuous that it requires much manipulation and bending of the probe to pass it through the tract. An over abundance of patience and time is frequently necessary to probe the tract. If after careful search, the probe will not enter the anal canal, but can be palpated just beneath the mucosa, it is then best to push the probe through the nearest crypt.

After the probe has been threaded through the tract an incision is made over the probe, from within outward, cutting down to the base of the tract. The overhanging edges, and the offending crypt are then cut away, and the skin beveled so that which was originally a pipe is now a "V" shaped ditch. The tract may then be excised or scarified as one sees fit. In the occasional case in which the offending crypt cannot be definitely located, one is justified in excising one or more of the crypts adjacent to where the probe was pushed through. If adequate drainage is given, from the anal canal outward, branching tracts leading up into the ischiorectal space, or along the rectal wall may be left alone, as the feeder of infection, the primary opening in the anal canal, has been eradicated and all subsequent drainage passes to the outside. When one has a deep branch such as this the skin edges should be excised wider so that they will not heal over before these branching tracts have filled in. All bleeding should be stopped, and a dry

gauze packing inserted. No suturing of the wound should be done. Injections of dyes or pastes have not been found desirable as they usually tend to obscure more than they help. After the tract is once cut down on it is easily traced as it is distinguished by a definite pyogenic membrane.

The question naturally arises--why push the probe through into the anal canal when the primary internal opening has apparently closed? Hayden, in reporting the end results of 280 cases of anal fistula operated on at the Massachusetts General Hospital, divided the operative procedures into practical and impractical operations. He listed as practical operations, complete incision and drainage with internal opening located, complete incision and drainage with probe pushed through the mucous membrane at probable site of internal opening. Impractical operations were—first stage operations (not completed;) incision of tract with suture of internal opening; excision of tract with suture of internal opening; Elting operation, in which the internal opening is sutured: incomplete incision and drainage of tract (internal opening not found.) This last group carried the largest number of operations of the incomplete type. The percentage of failure in this group alone was over 85 per cent. The percentage of cures in the complete operations, those in which the internal opening was found and cut through, or in which the suspicious crypts were excised, was 92 per cent. In the incomplete type the percentage of cures was 50 per cent. Buie in a report of 1000 cases found that 6 per cent required a secondary operation, all of which were done before the patients were dismissed from the first operation.

The after-care of these patients plays as important a part in the cure as does the operation. Frequently it makes the difference between a competent and an incompetent anus. The packing, in small and average size fistulas, should be completely removed by the end of 48-72 hours. In the largest of fistulas it should be out at the end of 4-5 days. Once the original packing is out, no more should be replaced. Each day the wound is cleansed with a mild antiseptic. The edges are gently separated and a cotton applicator is swept from within the anal canal outward, through the base of the incision to insure healing from the bottom with no bridging. A small piece of cotton is inserted between the skin edges to absorb the secretions. This should be changed frequently. Hot moist dressings to the wound, changed hourly, for 4-8 hours a day will not only promote healing, but give a great deal of comfort to the patient. The daily use of hot Sitz baths is urged after the third or fourth day. It is not necessary to give medications to keep the bowels from moving. Nature will take care of that. The bowels are moved after the third or fourth day by means of a plain water enema. The giving of oils, laxatives, and cathartics should be discouraged as they usually cause a looseness of the stool with a consequent seepage of bowel content over the wound. Each time the bowels move, a rectal irrigation of a pint of warm water is given to wash out the lower bowel and to clean out the canal. The area is then washed and the patient either put in a Sitz bath or a hot pack put on.

Post operative pain after the first 24 hours is usually due to undue infection. The above schedule of treatment faithfully adhered to will make a comfortable patient.

To recapitulate for just a moment. Trace out the tracts faithfully. Eradicate the internal openings or the suspicious crypts. Do a wide incision of the skin edges for adequate drainage. Remove the packing as soon as possible, and put no more in. Keeping the wounds packed too long is what causes incontinence. Treat your wounds carefully post-operatively. Keep them as mechanically clean as possible. To attempt to keep this area sterile is hopeless. Use hot moist packs and Sitz baths frequently. Avoid the use of oils, and laxatives. There is no reason why the cure of anal fistulas cannot reach over 95 per cent.

DISCUSSION

Arthur T. McCormack: Mr. President, before the old maestro discusses this paper I want to take occasion to say that I believe we owe a greater debt of gratitude to Dr. Hanes and his predecessor, Dr. Matthew, than to almost any two men who have practiced medicine in Kentucky. Dr. Hanes has lived long enough to have developed from the local specialist to one of the best general practitioners I have ever known. From a very limited viewpoint to begin with, he has seen the world, and I have had the privilege of hearing him tell about his discovery of the Hanes' position, which I believe is one of the most important contributions that has ever been made to medicine. The man who doesn't know it and doesn't practice it has missed one of the most important simple things that can happen in medicine. Take almost any kind of a lap board or anything else, and the head of a sofa, and slip your patient over it, practically standing on his head, and let air through the anus into the rectum and distend it, and the vision that you get

is absolutely astounding to the man who sees it for the first time. I shall never fail to recall the extended vision that I saw when I looked into the first rectum after I knew about the Hanes' position. The development from the viewpoint of the very limited specialist into the broad philosophy of life has come through Dr. Hanes' observations. It is to me one of the most stimulating and refreshing things in medicine, that the man who is practicing any specialty naturally will see a great many mistakes that are made by those who are less familiar with that particular department in which he is engaged and interested, but if he himself limits himself to the narrow confines of his own limited field, however intense it is in regard to that one thing, fails to get that picture of the patient that is absolutely essential if we are going to treat the ill person.

Dr. Owenby impressed us with that last night. The whole history of medicine impresses us with it. It is important for those of us who are devoting ourselves to specialties to develop the attitude of thorough study of the entire patient, his mental reactions, the whole part of his activities in every respect, and to assist as far as is possible in restoring him to normal or in teaching him how to live with the defect necessary at the end of the treatment of his condition.

I just want to take this opportunity of paying this tribute to Dr. Hanes, whom we all love, and of using him while he is here as an example of the proper development of the great man in medicine. (Applause)

Granville S. Hanes, Louisville: While a limited number of rectal fistulae are superficial and easily relieved the majority of cases are so complicated they require one who has had no little experience and skill to deal with them effectively.

It is a fact that the gravity of fistulae in many instances is not fully recognized at first and thus the cure becomes a much more intricate undertaking than was anticipated.

No one who is at all familiar with the subject of rectal abscesses and fistulae can escape the impression that there are complications somewhere, else there would not be such an overwhelming number of patients who have been subjected to multiple operations and yet their old symptoms remain. Not a few patients go through life partially relieved rather than subject themselves to further operations with only a vague hope of permanent cure.

Some rectal abscesses and fistulae are so extensive and complicated that it is not possible to effect permanent relief without doing harm to important tissues when operating. It is not infrequent that the ravages of the disease itself has done much harm to important structures.

There is no part of the human body where the reckless surgeon can partially disable the patient and render him miserable, and at the same time do no perceptible harm to his life. We would all be surprised if we knew the number of individuals who go through life partially relieved after operations for abscesses and fistulae with soiled linen and all kinds of discomfort rather than reveal their troubles.

No more knowledge of the parts and skill in operating is required in any surgical procedure than in dealing with an old, extensive and complicated rectal fistula.

If I had bad tonsils I could select one of a hundred surgeons whom I could readily trust to operate upon me. The same is true of appendicitis and other pathological conditions that require surgical skill but if I had a complicated rectal fistula I would hesitate and debate at length, even though I know numerous able proctologists, before I selected the surgeon that would invade my fundamental region.

Of course the most frequent danger in these operations is in doing harm to the structures that control the exit to the alimentary tract. In some cases injury is unavoidable while in most instances the parts can be successfully protected from harm.

The practice of introducing a probe or grooved director through a fistulous tract into the upper limits of the anal canal and then dividing all the overlying tissues is, in most instances, crude and unwarranted surgery. Of course, such a procedure is justifiable when the opening through the anal wall is in its lower extremity. It may be necessary to make such an incision when the opening is high but if the primary operation is correctly done this is seldom necessary. If such a procedure is required it should not ordinarily be done until the main wound outside the ano-rectal wall is practically healed. If done then there will be much less separation of the muscular ends and control will be less impaired.

When all the fibrous tissue external to the ano-rectal wall has been dissected away or dissected and cauterized, leaving a large open surface, opposite the perforation through the anal wall, then there will be but little difficulty in the short sinus which perforates the anal wall in healing. We often cauterize with actual cautery the tissues surrounding the external opening of the sinus which perforates the anal wall. The internal opening may also be cauterized or the sinus can be cauterized with pure phenol. When these precautions are observed it is quite seldom that the opening through the wall does not heal. Under these conditions the patient has perfect control.

The chief object in operating for rectal fistula is to destroy the fibrous tissue which forms along the sinus tracts.

It is believed by many that perforation oc-

curs through the rectal wall proper in rectal fistulae. Regardless of the extent of abscesses which are responsible for fistulae there is never a perforation through the rectal wall except some injury has occurred to the mucous membrane of the rectum. There is either an ulceration, a stricture, traumatism, or something that destroyed the continuity of the rectal mucosa. The point I am trying to make is that fistulous openings are always through the anal wall and not the rectal wall except where there is injury to the mucosa of the rectum.

I believe Dr. Tuttle was correct in his view that we can rely but little upon probes and grooved directors to give definite information regarding the direction and extent of rectal fistulae. It is my opinion that the most desirable method of dealing with the greater number of sinuses is to begin at the opening and dissect the tract out, destroying all the fibrous tissue possible. If a great deal of fibrous tissue remains it can be dissected away or cauterized or both.

Again I emphasize the fact that no surgical condition can be more deceptive in its extent and its complications than a rectal fistula. It is never well to picture to the patient just what will be found before the operation is done.

A few days ago I operated upon a patient who had been previously operated by one of our best surgeons more than a year ago. The patient failed to get relief because the main sinus was not discovered and dissected away. When I saw him he had but little discomfort but enough discharge to constantly soil his linen. It was impossible, when I operated, to introduce a probe further than one inch without traumatising the parts. The sinus was dissected away and was found to extend back to the base of the coccyx which direction no one could have ever guessed. There is no criticism to be offered against this surgeon. Everyone who operates for rectal fistulae is likely to meet similar complications. That which is under the skin and mucosa is not revealed until the operation is done.

In operating about the rectal outlet the anal circle should never be destroyed if it can possibly be avoided. If only a few sphincter fibers are left intact until the main wound has healed the best possible control will be assured.

One of the most serious mistakes and the source of inexcusable failures in the successful treatment of rectal abscesses and fistulae occurs in the post-operative care. I feel sure the dorsal position with the thighs flexed upon the abdomen and the knees well separated is the most desirable one patients can occupy when rectal wounds are being dressed. The posture aids materially in the separation of the parts and affords easy accessibility to the wounds whereby dressings may be removed and replaced with the least possible disturbance to the patient. At the same time the surgeon can assume a comfortable posture which enables him to properly care for wounds with the greatest possible ease and accuracy.

In some instances where the surgeon has operated for rectal fistula he is not too sure everything has been done that will insure complete recovery. During the post- operative care it is the surgeons duty to keep the healing process under careful observation and if it is seen that certain phases of the primary operation were not perfectly performed a slight secondary operation may often be done that will aid in rapid and complete recovery. Otherwise delayed healing and complications would likely occur. When such care is observed in post-operative treatment the percentage of failures will be much reduced. Fifty per cent in the successful management of extensive rectal fistulae depends on careful post-operative managment.

It has been argued that most rectal fistulae are tubercular. Of course such a contention is without foundation. Many patients suffering with pulmonary tuberculosis or tuberculosis elsewhere have rectal abscesses and fistulae. In such instances it is not proven by any means that a certain percentage of these patients would not have had rectal abscesses or fistulae regardless of the presence of tuberculosis. Within two years I have operated upon two patients with extensive destruction of the tissue in the right recto-anal region. There was very little pus in either case and in one tubercle-bacilli were cultured. In neither patient, while the local condition appeared tubercular, was there any evidence of tuberculosis in the lungs or elsewhere.

Abscesses and fistulae in the patients affected with tuberculosis anywhere in the body can be cured if the local parts are properly cared for and the patient has fair recuperative potentialities. The wound whether in a tubercular patient or otherwise will repair more slowly if the general state of health is below normal. Care, patience, and time will yield a big percentage of cures. I have seen many patients recover from fistulous operations when there was a very definite tubercular involvement of the lungs or other parts of the body.

The ano-rectal region is subject to infection that produces abscesses and fistulae far more frequently than any other part of the human body. This is due, in my opinion, to the fact that these structures are composed largely of connective and cellular tissues which are poorly supplied with nutritive elements. Large amounts of connective tissue must be present in these structures to permit of the extensive mobility required of the parts when they perform normal physiological functions. When distentions and contractions, elevations and depressions of the

parts, are even slightly impaired patients complain severely. This freedom of motion can be made possible only by the presence of an abundance of connective and cellular tissues.

In addition to the fact that there is a large portion of these structures very poorly supplied with nutrition it is also a fact that the most vicious bacteria found in the alimentary tract inhabit the sigmoidal and rectal tissues. These bacteria or toxines, or both, destroy the connective tissue, in some instances, to an astonishing extent. This damage is done in such a subtle manner that constitutional symptoms are not aroused. There is not even local evidence of disturbances except the skin around the anal outlet may become highly pigmented, the rectal mucosa mildly catarrhal, and the spincter muscles hypertrophied and sometimes sensitive. There may be intense pruritus, a tendency to constipation due to large, tight anal muscles, etc. All this damage to the tissues is without the patient's knowledge. At least he makes no complaint of that which has happened to the tissues.

If needles are introduced under the cutaneous surfaces and outside the rectal wall above the levator muscles, astonishing quantities of fluids can be introduced without producing tumefaction or at least no more than a slight fulness or bogginess can be detected. Of course these injections can be made where there has been extensive destruction to the cellular and connective tissues. In many instances only small amounts of fluids can be injected before forming extensive tumefactions.

If the recto-anal structures were composed of little connective tissue and few vicious germs and toxines were normally present rectal abscesses and fistulae would be very rare.

I have spoken of the deception in the extent of abscesses and fistulae about the rectum. Pus can extend easily and rapidly along these parts where partial destruction to the connective tissue has been previously produced. The appearance of danger that has been done to the external parts gives but little information as to the extent of injury that has been done to the parts under the skin and outside the rectal wall.

One who makes unequivocal predictions as to the extent of the disease before operating is exposing his reputation to hazardous risks.

I compliment Dr. Martin upon the able manner in which he has dealt with this subject.

Rufus C. Alley, Lexington: Time does not permit a detailed discussion of this interesting subject. However, I would like to say a few words about two practical points in the management of anal abscesses and fistulas.

Abscesses with rectal sinuses that are superficial to the sphincters, or involves only a portion of the external muscle, can and should be removed completely at one operation. However, when the abscess is large and a large amount of perianal supporting tissues must from necessity be removed, it is often not safe to cut the sphincter to expose a deep tract passing into the bowel. It is in this type of case that a two-stage operation is desirable, as Dr. Martin indicated. It has been my practice to excise the perianal tissues down to the outer margin of the external sphincter and then to loosely tie a heavy silk seton around this muscle by passing it from the lumen of the bowel into the abscess cavity through the internal opening. The seton serves as a positive guide to the remaining short fistula, and as soon as the perianal support is restored by partial or complete healing, it may be removed safely. The second stage of this maneuver is often done under local anesthesia in the office.

The second practical point to which I would direct attention is the relation of anal abscesses and fistulas to tuberculosis. Many otherwise up-to-date textbooks give the erroneous impression that anal abscesses and fistulas are usually tuberculous. It is a matter of fact that these infections are nearly always pyogenic. In a recent series of 100 consecutive patients upon whom I operated for fistula, only three showed microscopic evidence of tuberculosis inflammation. Even when tuberculous involvement is present it is probable that it is superimposed upon a primary pyogenic infection, the germs being conveyed by swallowed sputum. The suspicion, or actual presence, of tuberculous inflammation does not contraindicate surgical treatment, provided, of course, that the general condition of the patient is satisfactory.

Louis Frank, Louisville: I do not have a vast experience such as these gentlemen have in the treatment of anal fistula, but I think this is really a topic that probably should be discussed or should have been discussed a bit more in general societies such as this. I think there are one or two lessons to be learned from papers of this sort. Fistula in ano certainly in years past has been a very fertile field of exploitation for the quack, and whenever you see the quack after something it probably indicates that we as a profession have fallen down a little bit in what has been expected of us.

In other words, I think not only general surgeons but the profession as a whole rather look upon fistula and the operations for fistula as a very simple procedure and a condition that is probably very easy to cure, and for that reason have not given it the attention that it really deserves.

In my limited experience with diseases about the anus of this type, I don't know of anything that really makes me feel worse when I see them come into the office, as far as the future outcome is concerned, than some of these cases of

fistula, because if you have what we have called a complete fistula, just one single tract through, and if you lay it wide open and curette it out and clean it out, that gets well nicely, but that is not always the story, you may have numerous sinuses, numerous tracts, and they must be followed out and must be opened up.

As I say, I think this is certainly a field that deserves our most careful consideration, and I am glad that the essayist has brought up this discussion this morning.

I cannot agree with him and with the Massachusetts General surgeon whom he quoted as to the inadequacy of treatment of certain types of fistula by excision. We have dissected out a number of simple fistulas, closed them up, and so far as I can now recall, at least my impression is that we have gotten primary union and complete closure in all cases so treated. I will say, however, that these fistulas are very limited in extent and in number.

I am very delighted to have heard this paper. It taught me something, and I think probably it has given some suggestions to you.

CASE REPORT OF SUBACUTE BACTERIAL ENDOCARDITIS*

JOHN P. GLENN, M. D.

Russellville.

History: The patient, a woman about forty years of age, gave as her chief complaints shortness of breath and pain in the joints. Illness dated back six months, having begun with an attack of chills and fever, which lasted two weeks. At that time, a diagnosis of pericarditis was rendered by a nearby clinic. She was confined to bed, had attacks of intermittent chills and fever and continued to grow progressively weaker.

Chief Complaint: I first saw her three months ago. At that time she was still complaining of joint-pains and shortness of breath. Her daily temperature ranged from 99 to 102.

Past History: She had had the usual childhood diseases. Her later history was that of good health until five years ago, at which time she had been operated on for tumor of the breast, which was found to be malignant.

Physical Examination: Body well developed and well nourished; skin and mucous membranes showed evidence of marked anemia; ears, eyes, and nose, negative; throat, in good condition, tonsils having been removed; teeth, one diseased tooth reported by dentist; chest showed evidence of an old healed scar from radical amputation of the breast; heart, on inspection, the apex beat was found in the fourth interspace, outside of the midclavicular line; on palpation, a systolic thrill was felt; on percussion, the heart was found moderately enlarged to the left; on ascultation, a harsh murmur, transmitted to the left, was audible in both systole and diastole. Blood pressure, 100-70. Abdomen, negative except for slight tenderness in the left upper quadrant. Extremities, joints showed no evidence of oedema, redness or tenderness. The rest of the physical examination was essentially negative. There was no evidence of petechiae. Temperature was of the septic type, ranging from 100 to 103.

Laboratory Findings: Urine—color, smoky; albumin, 1 plus; sugar, negative; microscopic examinations showed numerous red blood cells; white blood count ranged from 8,500 to 12,500; differential showed polynuclear predominance; red blood count, 2,800,000; haemoglobin, 50; smear for malaria, negative on repeated occasions; agglutination for undulant fever, negative; blood culture, negative; x-rays of spine and both knees showed no evidence of pericarditis or tuberculosis.

Clinical Course: Fever was of septic type; patient had good and bad days, with recurrent attacks of joint pains, chills and fever, and was growing steadily weaker.

Diagnosis: A diagnosis of subacute bacterial endocarditis was made.

Treatment: Colladarium—one ampoule, intravenously, three times a week (2 cc to the ampoule, which is 6-1000 grains of gold chloride), and, by mouth, ten drops three times a day, increasing one drop daily. Sodium cacodylate—five grains to the ampoule, intravenously, every other day. Jeculin—two drams, three times a day.

Clinical Course Following Treatment: Temperature began to return to normal in three weeks and cleared up entirely in six weeks. Daily examination of the heart revealed that the murmur began to become softer at about the third week and disappeared completely at the end of two months.

Conclusions: The hemic murmur, so often encountered in anemia, seems to be ruled out by the fact that the murmur disappeared long before there had been any pronounced increase in the red blood count and the haemoglobin reading. I do not believe the sodium cacodylate acted specifically, for I have seen patients, who had received intensive treatment with sodium cacodylate, die from subacute bacterial endocarditis. With all this in view, I am of the opinion that the colladarium, either by bathing the vegetative growth on the mitral valve in its course through the blood stream or by some specific action upon the etiological factor, promoted the absorption of the vegetative growth and acted specifically to clear up the toxic manifestations of the disease.

*Read before the Logan County Medical Society.

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NEXT MEETING LOUISVILLE

COUNTY SOCIETY REPORTS

Floyd: The regular meeting of Floyd County Medical Society was held at the Beaver College Hospital, on April 24. Due to illness, our planned program could not be given, the physicians on the program all being ill at the same time. However, a good meeting was enjoyed by the following men: Drs. M. A. Wicker, J. E. Allen, J. H. Allen, M. M. Collins, A. J. Davidson, E. E. Martin, Dewey Osborne, W. M. Townsend and J. G. Archer.

Our paid-up membership is larger this year than ever before and we are proud of the fact that physicians in the county are becoming more progressive. We hope to have some interesting papers in the near future.

J. G. ARCHER, Secretary.

Grant: The Grant County Medical Society met in regular session at the office of the Health Department in Williamstown, Wednesday evening at 7:30, with the following members present:

N. H. Ellis, J. J. Marshall, J. W. Abernathy, A. D. Blaine, S. B. Rich, R. E. Kinsey, C. M. Eckler, J. T. Davis, C. A. Eckler, and the guest speakers Drs. O. J. Seibert and Shook. We also had as a visitor, Moreland Blaine, a medical student from the University of Kentucky.

The minutes of the last meeting were read approved and communications dispensed with.

Dr. O. J. Seibert of Cincinnati, our essayist for the evening, was now introduced and read one of the best papers, ever put before our Society on Toxic Goiter. Dr. Seibert started from its early history and led gradually up to present day viewpoints. He was very lucid and strictly up-to-date in every particular, and showed how an early operation was the present day teaching in these vital cases. We were exceedingly glad to have Dr. Seibert with us.

Dr. Shook opened the discussion and gave an excellent talk. He was followed by Drs. Kinsey, Abernathy, Blaine, C. M. Eckler, Marshall, and C. A. Eckler. These men all cited numerous cases in their practice and complimented our essays. Dr. Seibert closed the discussion in a masterly way, bringing out points very interesting indeed.

A motion was made and seconded to have a letter written by the secretary recommending Moreland Blaine, son of Dr. A. D. Blaine, of Dry Ridge, to the Health Department in Louisville, Kentucky, for the position of Sanitary Inspector. Moreland is well qualified for the position and our society is anxious to see him land it.

Motion made and seconded that a statement to the Fiscal Court, for money due us the past year in pauper practice, be sent by the secretary at once. Motion carried.

For our next meeting we are planning to have a program on Cancer of the Lip, Tongue and Mucous Membrane. We hope to have neighbor doctors present, this program is gotten out by the American Society for the Control of Cancer.

We are expecting to have a member from this Society to read a paper before the State meeting at Louisville, this fall. We hope to get this information at an early date.

We now adjourned to meet at the regular time in May.

C. A. ECKLER, Secretary.

Letcher: The Letcher County Medical Society assembled in banquet session in the Daniel Boone Hotel on Tuesday, April 30, at 8 p. m.

The following physicians and wives and guests were present at the meeting: Dr. Leon L. Solomon, Louisville; Rev. Bruce Strother, Dr. and Mrs. Owen Pigman, Farraday; Judge and Mrs. R. Monroe Fields, Whitesburg; Miss Margaret Saxon, Whitesburg; Miss Margaret P. Schmitt, health nurse, Whitesburg; Miss May Logan, clerk, Whitesburg; Miss Alta Parson, Whitesburg; Mrs. Albert Jones, Whitesburg; Mr. N. M. Webb, editor, Whitesburg; Dr. and Mrs. John W. Moss, Seco; Mr. and Mrs. J. L. Hays, Whitesburg; Dr. and Mrs. J. E. Crawford, Whitesburg; Mrs. D. V. Bentley, Neon; Dr. and Mrs. Carl M. Bentley, Neon; Miss Grace Wells, nurse, Whitesburg; Dr. Noah H. Short, Norton, Va.; Professor and Mrs. Arlie Boggs, Whitesburg; Miss Lina Willis, K. E. R. A., Hazard; Miss Ruth Louise Parker, K. E. R. A., Hazard; Prof. S. A. Knox, Blackey; Prof. and Mrs. R. D. Russell, Blackey; Miss Jennie Lee Crafton, Blackey; Miss Mary Virginia Bird, nurse, Blackey; Mr. R. F. Lewis, Whitesburg; Dr. and Mrs. J. E. Stanfill, Jenkins; Dr. J. E. Skaggs, dentist, Neon; Mr. and Mrs. August Codispoti, Whitesburg; Dr. J. M. Ray, Hazard; Dr. D. D. Carr, Hazard; Dr. B. M. Brown, Hazard; Dr. E. G. Skaggs, Hazard; Dr. R. L. Collins, Hazard; Dr. T. R. Collier, Whitesburg; Dr. E. F. Sheppard, Jenkins; Dr. G. D. Ison, Blackey; Dr. H. W. Gingles, Hazard; Mr. Lee Adams, clerk, Whitesburg; Mr. Kermit Combs, merchant, Whitesburg; Mr. R. D. Thomas, Whitesburg; Mr. and Mrs. D. F. Burke, Whitesburg; Dr. and Mrs. B. F. Wright, Seco; Dr. and Mrs. B. C. Bach, Whitesburg; Dr. and Mrs. R. Dow Collins, Whitesburg.

After a most gorgeous repast, the president, Dr. B. C. Bach, called the meeting to order. The first number on the program was a Vocal Solo, by Miss Alta Parson. Then the speaker of the evening, Dr. Leon L. Solomon, Louisville, was introduced by Dr. Owen Pigman, who had been a student of Dr. Solomon's while attending Medical School many years ago. Dr. Solomon chose for his subject this very important question, "Shall the Public Be Informed As To Contraceptive Measures?" Dr. Solomon made an exceedingly instructive, as well as entertaining address. He held his audience spellbound for more than an hour. After his timely address, Mrs. Rosa Hale Jones gave a reading, which the audience much enjoyed.

The closing remarks of appreciation were ably delivered by our fellow colleague, Dr. B. F. Wright. By this time it was 11 p. m., so then came adjournment.

Every body agreed that this meeting of the Letcher County Medical Society had been one of the most instructive as well as most joyful in many months. The Society wishes to extend their deep appreciation to Dr. Solomon and others, who made this meeting such an overwhelming success.

R. DOW COLLINS, Secretary.

Pulaski: Dr. Thomas J. Acton, Eubank, answered his last summons on January 22nd, 1935, after a brief illness of pneumonia.

In the passing of Dr. Acton the medical profession of Pulaski County lost one of its oldest colleagues. He had spent forty-three years in active practice of his profession in Pulaski and Lincoln Counties.

Dr. Acton was genteel, diligent, and kind in his personal and professional life. He took an active interest in all civic matters pertaining to the welfare of the community and was always willing to help in anything that would benefit the physical, moral, and spiritual welfare of those in the community.

BE IT RESOLVED by the Pulaski County Medical Society that we pay this last tribute of respect to his memory and service, and that we extend our sympathy to his family whose loss we share.

BE IT FURTHER RESOLVED that a copy of these resolutions be spread on the minutes of this society, a copy be furnished the family of Dr. Acton, and a copy be sent to the Kentucky Medical Journal.

Resolutions Committee,
W. M. Price, M. D.
L. I. Farmer, M D.
Carl Norflett, M. D.

Passed unanimously by the Pulaski County Medical Society at its meeting April 11th, 1935.

M. C. SPRADLIN, Secretary.

Christian: The Christian County Medical Society met in regular session Tuesday, April 16th, at Hotel Latham. The society was called to order by the president, the secretary being absent, no minutes of the previous meeting were read. The president appointed Dr. J. W. Harned secretary pro tem.

The application of Dr. Summers for membership was reported favorable and he became a

member of the Christian County Society.

The essayists of the evening were: Drs. Perry Bromberg and Ehrich of Nashville and Evansville respectively. Both were present and presented their subjects in a most masterly and instructive manner. Dr. Bromberg's subject was "The Significance of Hematuria." Dr. Ehrich's subject was, "The Future Treatment of Prostatic Hypertrophy." These were splendid papers.

The following members were present at this meeting: John Crittenden, Elkton; S. H. Williams, Crofton; M. E. Croft, Crofton; J. J. Ezell, Hopkinsville; W. E. Gary, B. A. Caudle, J. E. Stone, Philip Haynes, Delmar Clardy, W. R. Summers, Austin Bell, Hopkinsville; J. R. Garner, Lafayette; B. E. Boone, W. E. Bartlett, Elkton; John Futrell, E. W. Sigler, Cadiz; G. E. Hatcher, John White, Cerulean Springs; W. C. Haydon, Princeton; C. R. Morton, Frank Bassett, T. W. Perkins, J. W. Harned, J. G Gaither, Hopkinsville; A. A. Bell, Madisonville; W. S. Sanbach, Pembroke; Andrew Sargent, Hopkinsville; A. F. Finley, Madisonville; Perry Bromberg, Nashville, Tenn., and Dr. Ehrich, Evansville, Indiana.

After these splendid subjects were so ably presented and discussed the Society adjourned.

J. W. HARNED, Secretary

Knox: The Knox County Medical Society met December 17th, 1934 in the Private Dining Room of the Blackstone Hotel, for its final meeting for the year, with the president, Dr. Edw. Parker, presiding, and the following members and visitors present: Drs. E. Parker, G. T. Corum, B. P. Jones, Chas. W. Folsom, Leslie Logan, W. P. Clifton, John G. Tye, T. R. Davis, M. A. Bizzell, J. D. Foley and F. R. Burton. Visitors were: Chas. Cawcod and Rufus Alley, of Lexington; Wm. Cox of Corbin, and Edw. Wilson, and J. G. Foley, of Pineville.

As soon as supper was over, we elected the following officers for 1935: M. A. Bizzell, president; W. P. Clifton, vice-president; F. R Burton, secretary-treasurer.

Dr. Rufus Alley, of Lexington, then gave us an illustrated lecture on "Office Proctology," which was discussed by Wilson, Foley, Cox, Carum. Others discussed time and place of holding the next Cumberland Valley Medical Society meeting.

Dr. Carum made a motion that the members present pay their dues for 1935, and all members present paid their dues.

There being no more business to attend to, we adjourned to meet the 4th Monday night in March, 1935.

F. R. BURTON, Secretary.

BOOK REVIEWS

INSTITUTIONAL CARE OF MENTAL PATIENTS IN THE UNITED STATES by John Maurice Grimes, M. D., Chicago. Four years a staff member of the Council on Medical Education and Hospitals of the American Medical Association.

Published and distributed by the author. Price $2.00.

This book is a personal message to every person interested in the mentally sick, from an author of wide experience. It is a warm, pulsatory story that gives facts not available from other sources.

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Nature's own method of control, the subject of scientific inquiry for over fifty years, is here explained in detail for the layman.

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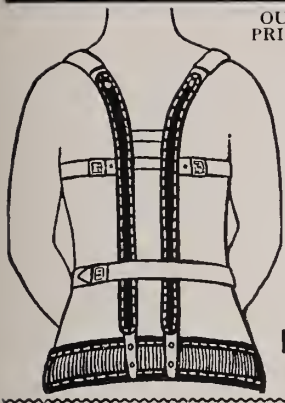
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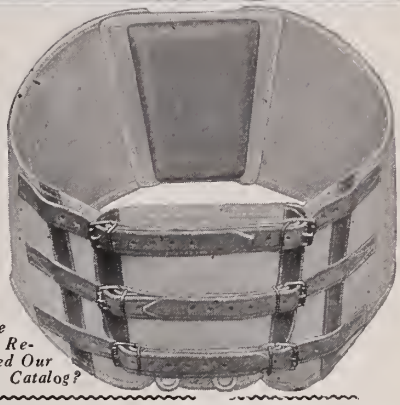
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(1) J. Amer. Med. Assn. 101, 127 (1933)

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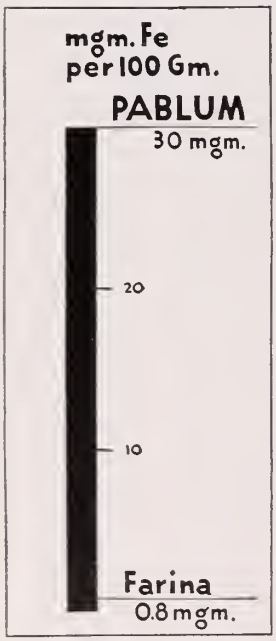
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The high vitamin B content of Pablum assumes new importance in light of recent laboratory studies showing that avitaminosis B predisposes to certain gastro-intestinal disorders. Apropos of this, Cowgill says, "Gastric ulcer is another disorder which can conceivably be related to vitamin B deficiency. Insofar as the treatment of this condition usually involves a marked restriction of diet the occurrence of at least a moderate shortage of this vitamin is by no means unlikely. Obviously the length of the period of dietary restriction is an important determining factor. Dalldorf and Kellogg (1931) observed in rats subsisting on carefully controlled diets that the incidence of gastric ulcer was greatly increased in vitamin B deficiency. Observations of this type merit serious consideration."[3] Sure and Thatcher (1933) produced ulcers in rats, similar to those in human gastric ulcer, as a result of specific vitamin B deficiency.[4] Clinical observations by Dickson,[5] Elsom,[6] Larimore,[7] and Mackie[8] lead them to believe that diets low in vitamin B may be conducive to gastro-intestinal disorders, including ulcerative colitis.

Requiring no further cooking, Pablum is especially valuable during the healing stage of ulcer when the patient is back at work but still requires frequent meals. Pablum can be prepared quickly and conveniently at the office or shop simply by adding milk or cream and salt and sugar to taste. Pablum has the added advantage that it can be prepared in many varied ways—in muffins, mush, puddings, junket, etc. Further, Pablum is so thoroughly cooked that its cereal-starch has been shown to be more quickly digested *in vitro* than that of farina, oatmeal, cornmeal, or whole wheat cooked four hours in a double boiler (Ross and Burrill).

Pablum consists of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa, yeast, beef bone, iron salt and sodium chloride.

1-8 Bibliography on request.

MEAD JOHNSON & COMPANY, Evansville, Indiana, U. S. A.

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons

YOUR DOCTOR AND YOU



FOR the seventh year Parke, Davis & Co. is continuing its series of messages to the public, published in the interest of the physician. These advertisements appear in the *Saturday Evening Post, Time, News-Week, Hygeia* and other leading magazines. Our purpose is to bring physician and patient closer together—to strengthen the public's confidence in the most honored of all professions. These messages are suggesting the earnest co-operation of the individual with the physician and are urging a reliance on the physician's knowledge and skill.

THIS "See Your Doctor" campaign is of particular importance at the present time, when so may diverse forces are complicating the status of the medical practitioner.

Since the beginning of the series, many physicians have requested copies of these advertisements and we have presented them from time to time in portfolio form. We have recently printed a new edition under the title "Your Doctor and You." The cover bears a photographic illustration designed to interest your patients. The booklet includes the following messages:

The letter that took him months to write.
The Peaceful Years.
There, dear . . . we needn't worry about scarlet fever now.
Dear Doctor: It was just a year ago today . . .
The Tragedy of a Good Intention.
Things I wish my mother hadn't taught me.
Which is the more dangerous age?
This little girl has three parents.
You don't believe in doctors?
Maybe "So-o-o Big" is too big!
The most dangerous thing about appendicitis.
The man who sentenced himself on circumstantial evidence.
He and his father would have been great pals.
Here's something you don't see in the papers.
This is the lady who was afraid of hospitals.

Most of these you may remember. Yet you may desire to scan through them again and then place this portfolio in your reception room. We shall be glad to send you a copy on request.

PARKE, DAVIS & COMPANY
Detroit, Michigan.

Please send me a copy of "YOUR DOCTOR AND YOU."

*Dr.*_____

PARKE, DAVIS & CO. DETROIT, MICH.

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Dose: About 1/5 that of morphine - - 1/20 gr. Dilaudid will usually take the place of 1/4 gr. morphine.

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• Dilaudid comes within the scope of the Federal Narcotic Regulations. No prescription containing Dilaudid, regardless of quantity, is refillable.

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Treatment of

ALL TYPES OF NERVOUS *and* MENTAL DISEASES

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ALCOHOLISM

and

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• • • •



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Address: HORD SANITARIUM, Anchorage, Kentucky—*Phone Anchorage 143*

VITAMIN STABILITY DURING CANNING

● For over twenty years, intensive studies have been made of the stabilities of the vitamins under various conditions and treatments. Data accumulated indicate that certain vitamins contained in foods may, under specific conditions, be sensitive to oxygen in the presence of heat, or to heat or oxygen alone (1).

Broad details concerning vitamin stabilities are now general knowledge. The basic principle of commercial canning, namely heat sterilization of foods in sealed containers, is also generally known. As a consequence, there has been a tendency in some quarters to regard canned foods as deficient in certain, if not all, vitamins originally present in the raw material because of the conditions to which they were subjected during the canning procedures. Such a concept is not consistent with the established facts.

In future issues it is our intention to review the vitamin values of specific canned foods, as well as other nutritional virtues which they may possess. At this time we should like briefly to survey the matter of the stability of the most widely distributed vitamins during the canning procedure:

In general, vitamin A is not affected by commercial canning. This also appears true of vitamin G, as judged by present bio-assay methods for this complex dietary factor.

The stability of vitamin B_1 is dependent not only upon the heat treatment accorded it, but also upon the natural acidity of the food in which it is contained. In the more acid foods there is practically no loss of the vitamin during canning; in the less acid foods, which require longer and higher sterilization times and temperatures, the degree of retention is not as high.

Vitamin C is the most labile of all the vitamins; it is especially subject to destruction by open pan methods of cooking which permit free contact with atmospheric oxygen. In canning, however, the food is protected to a greater degree from contact with oxygen in the presence of heat; consequently the antiscorbutic factor is well retained in commercially canned foods.

Protective measures employed in commercial canning combine to insure that vitamins are retained in high degree. Such measures include the use of selected raw materials at the optimum state of maturity; prompt handling of the harvested crop; rapid inactivation of enzymes; removal of respiratory oxygen; and exclusion of air to a maximum extent during canning.

A fuller discussion of vitamin stabilities during canning procedures is not possible here. For further reading a recent publication dealing more in detail with this important subject is recommended (2).

AMERICAN CAN COMPANY
230 Park Avenue, New York City

(1) The Vitamins, Sherman and Smith, The Chemical Catalog Co., New York, 1931.
The Vitamins; Browning, Bailliere, Tindall and Cox, London, 1931.
Vitamins, A Survey of Present Knowledge, Medical Research Council, H. M. Stationery Office, London, 1932.

(2) Ind. Eng. Chem. 24, 650 (1932)

I am interested in having you publish in this journal the facts about the subjects checked.

☐ Nutritive Values of Canned Foods.

☐ Canned Foods in the Diet of Children.

☐ The Tin Container.

☐ Canned Foods and the Public Health.

(Write Suggested Subjects Below)

*Dr.*_____

*Address*_____

*City*_____ *State*_____

Please mail to L-3
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230 Park Avenue **New York City**

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Drug Addiction
Senility

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Mental
and
Nervous Disease



Beautiful and Spacious Grounds Afford Outdoor Relaxation

Our ALCOHOLIC treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Whiskey withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

MENTAL patients have every comfort that their home affords.

Physiotherapy—Clinical Laboratory—X-ray.

The DRUG treatment is one of gradual Reduction; it relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used unless patient desires same.

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E. W. STOKES, M. D Medical Director, 923 Cherokee Road, Louisville, Ky.

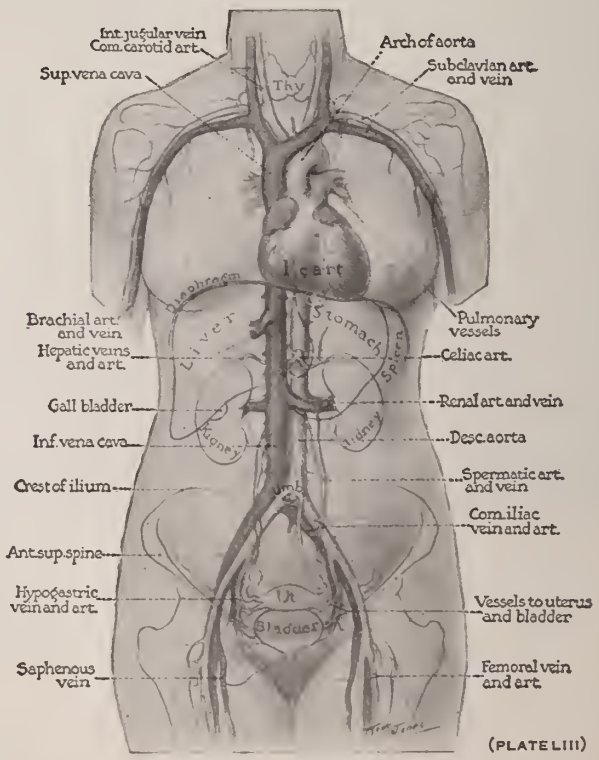
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ASSOCIATION



(PLATE LIII)

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Floyd W. Aplin, M. D.

Waukesha, Wis.

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COUNTY SOCIETY REPORTS

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An ethical institution, with modern equipment, for the care and treatment of mental and nervous diseases, and selected cases of alcoholic and drug addiction. Situated in the residence portion of the city, adjacent to Central Park, yet quiet and retired. Separate apartments for male and female patients, all of whom have the personal attention of two physicians resident in the Sanatorium.

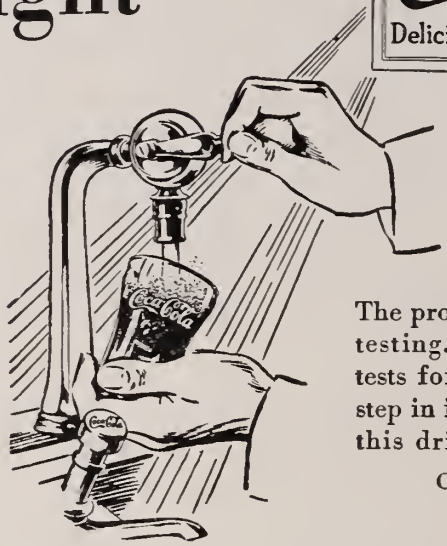
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A. GUIGLIA, M. D., Resident Physician

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Coca-Cola Co., Atlanta, Ga.

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Adair	N. A. Mercer	Columbia	July 3
Allen	A. O. Miller	Petroleum	July 24
Anderson	J. B. Lyon	Lawrenceburg	July 1
Ballard	F. H. Russell	Wickliffe	July —
Barren	Paul S. York	Glasgow	July 17
Bath	H. S. Gilmore	Owingsville	July 8
Bell	R. F. Porter	Middlesboro	July 12
Boone	R. E. Ryle	Walton	July 17
Bourbon	W. B. Hopkins	Paris	July 18
Boyd	R. G. Culley	Ashland	July 2
Boyle	P. O. Sanders	Danville	July 9
Bracken	J. M. Stevenson	Brooksville	July 1
Breathitt	Frank K. Sewell	Jackson	July 16
Breckinridge	J. E. Kincheloe	Hardinsburg	July —
Bullitt	S. H. Ridgeway	Shepherdsville	July —
Butler	G. E. Embry	Morgantown	July 3
Caldwell	W. L. Cash	Princeton	July 2
Calloway	W. H. Graves	Murray	July 4
Campbell-Kenton	Luther Bach	Ballavue	July 4-18
Carlisle	J. F. Dunn	Arlington	July 2
Carroll	J. M. Ryan	Carrollton	July 9
Carter	W. S. Hawn	Grayson	July 9
Casey	Wm. J. Sweeney	Liharty	July 25
Christian	M. A. Gilmore	Hopkinsville	July 16
Clark	R. E. Strode	Winchester	July 19
Clay	J. L. Anderson	Manchester	July —
Clinton	S. F. Stephenson	Albany	July 20
Crittendon	C. G. Moreland	Marion	July 8
Cumberland	W. F. Owsley	Burkesville	July 3
Daviess	I. A. Thorpe	Owensboro	July 9 23
Elliott	W. H. Joyner, Act. Sec.	Sandy Hook	
Estill	Walter Cox	Irvine	July 10
Fayette	John Harvey	Lexington	July 9
Fleming	C. W. Christine	Flemingsburg	July 10
Floyd	J. G. Archer	Allen	July 31
Franklin	W. S. Snyder, Jr.	Frankfort	July 4
Fulton	J. C. Morrison	Hickman	July 10
Gallatin	J. M. Stallard	Sparta	July 18
Garrard	J. E. Edwards	Lancaster	July 18
Grant	C. A. Eckler	Dry Ridge	July 17
Graves	H. H. Hunt	Mayfield	July 2
Grayson	C. F. Blankenship	Leitchfield	July 25
Green	S. J. Simmons	Greensburg	July 1
Greenup	C. W. Monroe	Greenup	July 12
Hancock	F. M. Griffin	Hawesville	July 1
Hardin	D. E. McClure	Elizabethtown	July 11
Harlan	W. R. Parker	Harlan	July 20
Harrison	W. B. Moore	Cynthiana	July 1
Hart	S. F. Richardson	Munfordville	July 2
Henderson	Walter O'Nan	Henderson	July 8-22
Henry	Owen Carroll	New Castle	July 29
Hickman	Chas. Hunt	Clinton	July 4
Hopkins	David L. Salman	Madisonville	July 4
Jackson			July 6
Jefferson	Ulv H. Smith	Louisville	July 1-15
Jessamine	J. A. VanArsdall	Nicholasville	July 18
Johnson	P. B. Hall	Paintsville	July 13
Knott	M. F. Kelley	Hindman	July 27
Knox	T. R. Davis	Barbourville	July 26
Larue	D. W. Gaddie	Hodgenville	July —
Laurel	Oscar D. Brock	London	July 10
Lawrence	W. C. Gose	Louisa	July 15
Lee	W. D. McCullom	Beattyville	July 13
Leslie	John H. Kooser	Hyden	July —
Letcher	R. Dow Collins	Whitesburg	July 30
Lewis	J. D. Liles	Vanceburg	July 15
Lincoln	Lewis J. Jones	Houstonville	July 19
Livingston	Wm. C. Davis	Salem	July —
Logan	Walter Byrne, Jr.	Russellville	July —
Lyon	H. H. Woodson	Eddyville	July 2
McCracken	Leon Higdon	Paducah	July —
McCreary	R. M. Smith	Stearns	July 1
McLean	G. L. Thompson	Calhoun	July 11
Madison	Lewis C. Coleman	Richmond	July 18

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Marion	W. A. Resteen	Lebanon	July —
Marshall	S. L. Henson	Benton	July 17
Mason	Allen F. Murphy	Maysville	July 10
Meade	A. A. Baxter	Brandenburg	July 25
Menefee	E. T. Riley	Frenchburg	July —
Mercer	J. Tom Price	Harrodsburg	July 9
Metcalfe	P. W. Bushong	Edmonton	
Monroe	E. S. Dunham	Tompkinsville	July —
Montgomery	D. H. Bush	Mt. Sterling	July 9
Morgan	W. H. Wheeler	Betsy Sayne	July —
Muhlenberg	G. L. Simpson	Greenville	
Nelson	R. H. Greenwell	Bardstown	July 9
Nicholas	T. P. Scott	Carlisle	July 15
Ohio	Oscar Allen	McHenry	July 3
Oldham	S. J. Smock	LaGrange	July 2
Owen	K. S. McBee	Owenton	July 4
Owsley	D. E. Wilder	Booneville	July 1
Pendleton	W. A. McKenney	Falmouth	July 10
Perry	R. L. Collins	Hazard	July 8
Pike	M. D. Flanary	Pikeville	July 1
Powell	W. Johnson	Stanton	July 1
Pulaski	M. C. Spradlin	Somerset	July 11
Robertson			July 15
Rockcastle	Lee Chestnut	Mount Vernon	July —
Rowan	A. W. Adkins	Morehead	July 8
Russell	J. B. Scholl	Jabes	July 8
Scott	F. W. Caudill	Georgetown	July 4
Shelby	W. E. Morris	Shelbyville	July 18
Simpson	N. C. Witt	Franklin	July 9
Spencer			
Taylor	W. B. Atkinson	Campbellsville	July 4
Todd	B. E. Boone, Jr.	Elkton	July 3
Trigg	H. L. Wallace	Cadiz	July 31
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	July 31
Warren	Hal Neal	Bowling Green	July 10
Washington	J. H. Hopper	Willisburg	July 17
Wayne	R. E. Teague	Monticello	July 4
Webster	C. M. Smith	Dixon	July 26
Whitley	C. A. Moss	Williamsburg	July 4
Wolfe	G. M. Center	Campton	July 1
Woodford	Chas. F. Voigt	Midway	July 4

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Some Clinical Observations on the Influence of certain Hygroscopic Agents in Cigarettes.
Laryngoscope, 1935, XLV, 149-154★

SEE ALSO
Pharmacology of Inflammation: III. Influence of hygroscopic agents on irritation from cigarette smoke.
Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245★

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Absolutely without charge or obligation of any kind, please mail to me

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What greater FEAR!



The severe mental anxiety which generally precedes operative procedure often makes sleep difficult and deters the patient's recovery. In such cases physio- and psychotherapy are very often insufficient and a safe, effective sedative must be resorted to in order to induce sleep.

Ipral Sodium (sodium ethylisopropylbarbiturate) is a safe sedative and hypnotic which through selective action on the sleep center, reduces the patient's perception of internal and external stimuli, producing a sleep closely resembling the normal from which the patient awakens generally calm and refreshed. It is readily absorbed, rapidly eliminated and in the therapeutic dose, which is small, it is free from untoward organic effects.

Ipral Sodium is supplied in 2-gr. tablets for use as a sedative and hypnotic and in 4-gr. tablets for pre-anesthetic medication.

Tablets Ipral Amidopyrine (2 gr. Ipral, 2.33 gr. Amidopyrine) provide both an analgesic and a sedative effect.



Both of these Squibb Ipral Products may be obtained in vials of 10 and bottles of 100 and 1000 tablets. For descriptive literature address the Professional Service Department, 745 Fifth Avenue, New York City.

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Physicians who have obtained excellent results with the familiar *Karo Syrup* may not wish to change to the *Powdered* and we do not suggest that they do. Those who prefer a *powdered* product to a syrup will welcome the new *Karo Powdered.*

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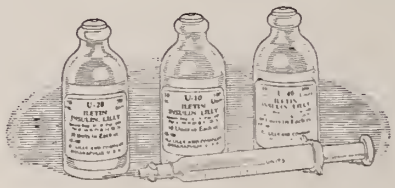


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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. 33 NO. 7 BOWLING GREEN, KY. JULY, 1935

CANDID TALK

We have been trying two experiments recently with the JOURNAL. We want to talk to you about them.

At random we selected the names of fifty different members each month for three months and failed to send them the JOURNAL. An average of forty-one wrote each month and wanted to know why their JOURNAL had not arrived. This is one of the most gratifying things that could have happened to the JOURNAL. It shows that our members look forward to reading it and that they would miss it if it didn't bring its monthly message. Those of you who have failed to get your JOURNAL will undertsand now why it did not come and will appreciate the fact that you were helping us to determine the worth of the publication.

In the other experiment we have selected advertising with coupon attachments, which would indicate to the advertisers who are purchasing space that our readers, who are the owners and editors of the JOURNAL as well, are really ready to cooperate with the great national firms who are helping to support the publication. In the results of this study we have been distinctly disappointed. We solicited and received the cooperation of the American Can Company and assured them that our members would be glad to help them in a study to determine the value of canned foods. We are very much disappointed to find that an almost negligible number have filled out and sent in the coupon which is attached to this advertisement.

The publication of the JOURNAL is paid for by our advertisers. We, therefore, feel that they are partners in this enterprise of post-graduate education in which we are all engaged. The number of our advertisers is always distinctly limited by the fact that their products must comply with the standards of the American Medical Association. We are so confident of the standing of each of them that we guarantee our members against any financial loss involving an advertised product. So far as we are aware, this is the only publication which does this. We have continued the plan over many years and have found it most satisfactory to our members. In order to continue the high standard of the JOURNAL we want to ask your real cooperation in reading the advertisements, in giving the firms and institutions that advertise a chance for your business. Many of our members are informing detail men and solicitors whose advertisements do not appear in the JOURNAL that they cannot deal with them because they are sure their announcements would be carried if they were reputable. Every month we reject many advertisements which cannot meet the approval of our high standards.

The JOURNAL will appreciate very much the co-operation of its members in reading the advertising pages and in corresponding with firms who make announcements, and particularly in cooperating with those which advertise through the coupon study method.

THE PHYSICIAN AND TUBERCULOSIS

Tuberculosis is being recognized, more and more, as "Public Enemy No. 1." The destitution left in its trail is so appalling that well informed, thinking people everywhere are ready to join forces against this menace to health and happiness.

Educational leaders in many countries are demanding that teachers, and other employees, coming in contact with pupils of the schools furnish proof of their freedom from infectious Tuberculosis.

The wide spread educational program now being conducted is creating interest and causing many to become more interested in protecting themselves from the relentless disease.

The family physician should be the one to advise interested persons regarding the presence of infection as well as to determine the presence of activity or the progress made by the disease in infected persons.

The widespread educational program is creating interest and sending many to their physicians. The physician should be prepared to assume the responsibility falling upon him. Every patient has a right to demand the best treatment and guidance from his or her family physician, and every physician should be prepared to give the best to those who come under his care.

We can not hope to reach a practical solu-

tion of the Tuberculosis problem in Kentucky until the public thoroughly appreciates the value of preventing Tuberculosis and recognizes the practicing physician and his invaluable service in the prevention, early diagnosis and treatment of this ravaging disease.

DR. JOHN R. WATHEN

The death of Dr. John R. Wathen, on May 25, removed from the roster of the Kentucky State Medical Association one of its most distinguished members.

Dr. Wathen was a son of the late Dr. William H. Wathen, for many years Dean of the Kentucky School of Medicine, one of the original gynecologists in the United States, who was, during his lifetime, one of the greatest forces in medical education and organization in the country. His son studied at Yale University and graduated from the Kentucky School of Medicine. He was on the staff of St. Anthony's Hospital up to the time of his death. He was one of the earliest investigators in the surgery of the thyroid and was a recognized authority in this branch of surgery. He was a man of pronounced convictions, a frequent contributor to medical literature and one of the most loyal and devoted members of the medical organization.

Few families have had the privilege of contributing two such illustrious names to medicine in two generations.

RABIES

An average of $200.00 is being expended in Kentucky each month for rabies treatments for the indigent alone. Just how much those who are able to purchase and are purchasing these treatments for themselves are spending, there is no way of telling with any appreciable degree of accuracy.

This money would suffice to send ten boys or girls through college, as there are in this state several recognized colleges where room, board and tuition may be obtained for less than $300.00 a year. How much better it would be if the needless expenditures for rabies treatments could be diverted to a worthy educational cause.

Rabies can be prevented in the lower animals as well as in man. The Pasteur treatment will prevent rabies, if administered promptly after exposure. It will not cure it. The inoculation of dogs with "canine rabies vaccine" will, in the great majority of cases, protect against the disease for a year. The most effective method of controlling the disease, however, lies in preventing useless dogs from running loose. Apart from the health factor involved, such control would be of enormous monetary value to the farmers in protecting their livestock.

ORIGINAL ARTICLES

THYROIDECTOMY FOR ENDEMIC GOITER*

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In order to clarify the scope of this paper I shall refer to classification of goiter which is generally accepted by writers and students on the subject, namely three general types: simple colloid goiter, adenomatous or endemic or nodular goiter, and exophthalmic goiter. My paper will deal with the second class, the adenoma, which in turn is classified as non-toxic and toxic adenoma. Concerning toxic adenoma and exophthalmic goiter there are two schools: Crile, Marine and Graham believe toxic adenoma and exophthalmic goiter are variations of the same disease, while Plummer and his followers believe they are distinct clinical entities. It seems to me that they are as different as scarlet fever and measles. The clinical symptoms and signs as well as the response to treatment are entirely different as is the pathology both gross and microscopic.

I will briefly eliminate from discussion the first and third classes, namely simple colloid goiter and exophthalmic goiter by saying that their symptoms, diagnosis and treatment are rather generally known and agreed upon. For the first, which usually occurs in young people, iodine in small doses over a considerable period of time gives satisfactory results before and during adolescence. This has been clearly proven by Marine and Kimball and others. After the middle of the third decade its administration is dangerous, especially in the presence of palpable adenomata. The most uniformly successful and satisfactory treatment of exophthalmic goiter is surgical removal. There is still more to be learned about this very complicated condition. At some future time a specific treatment for it may be discovered but until that time surgical removal offers a low mortality and high percentage of rehabilitation.

Endemic or adenomatous goiter is an enlargement of the thyroid gland which is not diffuse and symmetrical as in colloid or exophthalmic goiter, but is asymmetrical, nodular and varies in consistency and size. There may be one or several nodules. They may be in one side of the gland or both. There may even be no visible goiter if the adenoma is sub-

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sternal. The symptoms depend on the size and toxicity. In the non-toxic goiter or adenoma without hyperthyroidism, the symptoms are usually as follows: pressure, nervousness, loss of weight, dyspnea, palpitation. Many can be ascribed to the presence of a tumor in the neck. Coller and Arn in a study of fifty patients with non-toxic adenoma operated at the University Hospital in Ann Arbor, Michigan, found that palpitation and dyspnea were present in over 80 per cent of the cases, a sense of pressure in 44 per cent, nervousness in 94 per cent but not the clear-cut type associated with well marked hyperthyroidism. Muscular weakness, case of fatigue, irritability and a feeling of tension are not constant but are frequent symptoms. A feeling of apprehension and depression is not uncommon. The condition is usually found between the ages of twenty and forty. Coller and Potter in a study of over seven hundred cases of goiter operated and followed up, found the average age of the non-toxic adenoma group to be thirty-three. X-ray shows compression or deviation of the trachea in about 50 per cent of cases. Exophthalmus is never present. One or more nodules of varying sizes are to be found on examination. The basal metabolic rate is normal or subnormal. It is generally accepted that basal metabolic rates between plus 15 and minus 15 are within normal limits. The pulse may vary all the way from normal to that of auricular fibrillation, a condition seen frequently in association with endemic goiter with normal or subnormal metabolic rates. Cardio-vascular abnormalities are not at all uncommon in this type of goiter.

The symptoms of toxic adenoma or adenomatous goiter with hyperthyroidism are those mentioned above, greatly exaggerated plus others. The average age is older, being about forty-five. The goiter has been present longer, symptoms are of longer duration. The onset is insidious as in the non-toxic group. There is loss of weight but not the ravenous appetite found in exophthalmic goiter. There is no exophthalmus. There is no bruit and no thrill. Crises do not occur, fever is never present. Tachycardia and cardiac irregularities are constant findings, as is tremor, insomnia and sweating. Systolic blood pressure is always elevated as is the diastolic but the pulse pressure is not elevated as in exophthalmic goiter. According to Jackson about 40 per cent of cases of toxic adenoma respond favorably to iodine. Almost 100 per cent of patients with exophthalmic goiter respond favorably for a short time. Coller and Potter found 54 per cent of toxic adenomas responding favorably to iodine. However, there is great variation in the response of this type of goiter and one is unable to prophecy what the reaction may be. However, Emil Goetsch thoroughly disapproves of the use of iodine for fear of causing activity.

As to the treatment of toxic adenoma there is uniformity of opinion. Surgical removal offers the only hope of cure. Coller and Potter found 97 per cent of a series of patients receiving complete rehabilitation after operation. The remaining 3 per cent who were unrelieved were patients on whom operation was performed too late. All had severe cardiac lesions. One had hypertension with anginal attacks, one had hemiplegia and one pulmonary tuberculosis. Other men have obtained similar results. However, toxic adenoma offers the greatest surgical risk, particularly advanced cases. Many men advocate a return and more general use of fractional operations for this type of goiter. Mortality figures of from 0.2 per cent to 3.0 per cent in large series of operations indicate plainly the influence of careful selection of cases, pre- and post-operative use of iodine, and refinements in surgical technic. Bartlett has claimed that every death following thyroidectomy probably represents too much surgery done at one time. In many patients who, for economic reasons, are unable to rest the proper length of time in preparation for operation, the multistage operations offer the best chance for safe removal of the gland with probability of complete recovery. This is especially true of advanced cases with myocarditis and auricular fibrillation.

The chief purpose of this paper is to emphasize the importance of the surgical removal of the non-toxic adenoma. There is a deplorable indifference among the profession at large to adenomatous goiter with normal or sub-normal metabolic rate.

The chief argument advanced against thyroidectomy for endemic goiter with normal or sub-normal metabolic rate is that removal of the adenomatous portion of the gland will cause symptoms of myxedema since there must exist a need for all the gland tissue, normal or abnormal. Coller and Arn in a study of seventy patients whose basal metabolic rate was in the lower limits of normal, that is, from minus 1 to minus 15, comparing rates before operation with those taken three years after, found that 54 per cent had a lowered rate on an average of 4.6 points, while 46 per cent showed an average gain of 6.7 points. Myxedema was encountered in

only one instance, that of a patient on whom an operation for recurrence followed lobectomy done years previously. It has been thoroughly demonstrated that almost any amount of thyroid or goiterous tissue can maintain a normal metabolic rate. Therefore, one can say with a great deal of accuracy that true myxedema very rarely or practically never occurs after operation for this type of goiter. Sturgis and others have observed that a metabolic rate of from 10 to 25 per cent below normal occurs frequently without myxedema and not infrequently is found in normal individuals. Low metabolism is frequently found associated with debilitating diseases and is a measure of undernutrition rather than hypofunction of the thyroid. A low metabolism is not due to a goiter any more than it is due to the removal of it.

To my mind there are at least three good reasons for advocating removal of the nontoxic adenoma; first, the cosmetic effect, second, the almost certain development of permanent cardio-vascular disease later in life, and third, the possibility of malignancy. The first and least important reason does not apply in small adenomas or in the intrathoracic type but it certainly is to be considered in patients having large adenomas.

The second is one of the most important arguments for operation before middle life and one of the most common sequelæ of a goiter of long duration. A lengthy discussion of the goiter heart is out of place here but many things can be said. It has been clearly shown that cardiac abnormalities, in rate, size and rhythm without other cause are present in far greater degree in a group of patients having endemic goiter than in a group without goiter. Auricular fibrillation is frequently present associated with endemic goiter with normal basal metabolic rate, and as frequently disappears after thyroidectomy. Hypertension and myocarditis are the well known companions of an adenoma of years duration. All these conditions could be prevented if operation was performed in the early stage of the disease, preferably between the ages of twenty-one and forty. After a goiter has been present twelve or fifteen years there is certain cardio-vascular-renal damage, much of which is irreparable and of course, makes operation hazardous.

The possibility of the development of malignancy in an adenoma is one of the strongest arguments advanced today for early thyroidectomy. It has been definitely shown by large series of cases that carcinomatous degeneration occurs in six per cent of goiters. It is now well known that age no longer protects against malignant degeneration. There have been too many cases reported developing cancer under the age of twenty. In preparation for this paper I have communicated by letter or in person with the recognized authorities on thyroid disease in the United States. I asked them if they advised operation for non-toxic adenoma, if so, their reasons for so doing and the type of operation they preferred. Doctor Coller stresses the possibility of malignancy and the later development of toxicity with all its sequelæ. Crile says, "We remove adenomata because even if they are non-toxic there is danger that malignancy may develop later." Lahey says, "We used to think very small adenomas protected patients against the danger of malignancy in them. That we now know not to be true as last year we had an adenocarcinoma develop in an adenoma no longer than my thumb nail. We have had a child of seven years of age develop carcinoma in a thyroglossal cyst; we have had a child of twelve die of cancer of the thyroid and I recently operated on a patient for an adenoma which was malignant, she being twenty-three years of age and this has been repeated a great many times." Emil Goetsch says, "The nodule will never disappear of its own accord. The tendency is by all odds to progress and eventually become toxic. Then there is always the possibility of malignant degeneration in a certain percentage varying from six to ten per cent. Consequently I feel that operation is to be advised." Jackson says, "It has been my custom to advise thyroidectomy in all cases of adenomatous goiter in persons over the age of twenty-one. Very occasionally I have seen large adenomatous goiter in young persons in whom it has seemed advisable to operate for relief of pressure symptoms. I have advised thyroidectomy as a prophylactic measure against the development of intrathoracic goiter, malignancy and hyperthyroidism." E. R. Arn advises and performs operations in cases of non-toxic adenoma for essentially the same reasons. I recall a patient several years ago, a girl of sixteen, who had carcinoma of the thyroid, developing in an adenoma. Her mother at about the age of forty had a goiter removed which also was malignant.

It seems clear to me that we have ample evidence to justify advising removal of the non-toxic goiter I do not believe it should be done before the age of twenty-one unless there is some suspicion of malignancy or unless serious pressure symptoms are present This is because of the possibility of recur-

rence. It is not uncommon under twenty-one years of age. Recurrence in toxic adenoma or in non-toxic adenoma after the age of twenty-one is rare. I feel equally certain that operation should not be delayed until the age of fifty or over when permanent damage has resulted to the cardio-vascular-renal system. As a final argument for recommending operation I would like to mention the attitude of insurance companies toward patients who had had a thyroidectomy, as found by Coller and Potter. They found that thirty-three patients with exophthalmic goiter were granted insurance and twelve had been refused after operation. Twenty who had had a toxic adenoma had been granted insurance and eleven refused, and of those who had had non-toxic adenomas removed twenty-four had been insured and two refused.

Concerning operative procedure there are minor differences of opinion. For a single nodule on one side only I prefer to resect a small part of gland surrounding the nodule along with it and not a resection of the entire gland. However, if the other lobe is involved I prefer the bilateral sub-total resection refined and developed by Coller of Ann Arbor. Dissection is begun at the isthmus, the trachea is stripped carefully, dissection is carried upward to the superior pole, vessels ligated in the space above the vessels and then the gland is resected downward, leaving only a thin shelf of gland to cover the recurrent laryngeal nerve and containing the parathyroids. In this way any substernal portion can be easily drawn up and removed. Dissection is then carried across to the opposite lower pole and upward to completion. Careful hemostasis is very important. It is practically never necessary to section the sterno-hyoid and sterno-thyroid muscles as they can be retracted with a Brewster or Richardson retractor sufficiently to give ample exposure. The resected gland is reconstructed to whatever degree is necessary and the operation completed. Drainage is only necessary for eight hours. Anesthesia is largely a matter of opinion. Those in common use are: local, rectal, intravenous and inhalation. Of the general inhalation anesthetics, ethylene, nitrous oxide-oxygen, and nitrous oxide-oxygen-ether are the most satisfactory. Arnold Jackson prefers local anesthetic preceded by a barbital compound, pantopon and scopolamine. Crile prefers local anesthetic preceded by a sedative. Pentobarbital sodium and sodium amytal are in common use as preliminary medication and are quite satisfactory. Avertin has been rather extensively used supplemented by gas-oxygen. I have used sodium amytal intravenously in many cases and in the "steal" type of operation it is excellent but there are occasional unfavorable results which hardly justify its use to any extent. Coller prefers nitrous oxide-oxygen preceded by one-third of a grain of pantopon given subcutaneously. This procedure seems to give the most satisfactory results from every standpoint. Anesthesia, of course, must vary according to the individual case.

No paper on goiter is complete without mention of the pioneers in the diagnosis and treatment of this important condition. Kocher, Mikulicz and Billroth are outstanding among the old masters of surgery in the successful treatment of goiter and they furnished inspiration to the master surgeons of our time, Charles H. Mayo, Halsted and Crile. Kendall's brilliant work in isolating thyroxin is very noteworthy. Plummer will stand out for having clarified our ideas concerning the diagnosis and treatment of diseases of the gland.

CONCLUSIONS

1. The differential diagnosis and treatment of exophthalmic goiter and toxic adenoma are well known and generally agreed upon at the present time.

2. The surgical removal of the toxic adenoma is somewhat hazardous because patients usually wait until serious cardio-vascular damage has taken place.

3. Endemic goiter without an elevated basal metabolic rate or other signs of hyperthyroidism presents definite symptoms, namely: palpitation, dyspnea, nervousness, a sense of pressure, loss of weight, muscular weakness and irritability.

4. All manner of cardiac abnormalities may be present with a normal basal metabolic rate. They are constantly present and to a more marked degree in the toxic adenoma.

5. Myxedema is practically never associated with endemic goiter and rarely occurs after thyroidectomy for this type of goiter.

This is shown by a comparison of metabolic rates taken before and after operation.

6. The non-toxic adenoma should not be removed before the age of twenty-one unless there are definite signs of malignancy because of the possibility of recurrence.

7. The non-toxic adenoma should be removed because of the certain development of cardio-vascular damage later in life and because of the possibility of malignant degeneration which occurs in about six per cent of goiters irrespective of the age of the patient.

It should also be removed for the relief of pressure symptoms.

8. A small single adenoma may be resected but in multiple adenomas or uniform enlargement of both lobes a bilateral subtotal resection should be done.

I wish to express my appreciation to Doctor Frederick A. Coller, Professor of Surgery in the University of Michigan Medical School, my friend and former chief surgeon, for stimulating my interest in goiter and for his assistance and criticism in the preparation of this paper.

PRIMARY TUMORS OF BONES*

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Paducah

In reviewing the ordinary textbooks wherein bone tumors are diagnosed, one is impressed with the fact that there has been an appreciable difficulty in arriving at a working classification for diagnostic purposes. Frequently, this is in part due to an endeavor to classify the tumors from a microscopic examination of the stained sections, without taking into consideration the fact that the microscopic picture changes as the bone tumor advances in its growth. The cells of a bone tumor may show different dominating characteristics at different periods in the growth of the tumor, and likewise in different sections of the tumor.

A typical example of this condition has been shown by Ewing to exist in giant cell sarcomas. In the walls of a giant cell sarcoma, not uncommonly there is found a zone of reactive tissue, which on microscopic sectioning closely resembles an osteogenic sarcoma. Likewise, in the central portion of a giant cell sarcoma, giant cells may be entirely absent. Thus, without a history or an X-ray picture, the pathologist may turn in an erroneous diagnosis, leading the surgeon to incorrect treatment of the case in question.

Another example of this fact is to be found in endothelioma. Pus not infrequently is present in the endothelioma, and at first on seeing the presence of this pus in the tumor, one easily might make a diagnosis of osteomyelitis instead of the correct diagnosis of endothelioma.

From the above examples, then it is quite evident that biopsy alone is attended by many pit-falls in making a proper diagnosis; and attempting to classify the tumors from the microscopic appearance of the cells, tends to clutter up the classification in a most confusing manner.

Codman, Bloodgood, and Ewing composed the first committee appointed by the Registry of Bone Sarcoma. This registry has carried out an intensive study of bone sarcoma, and finally evolved a classification of bone tumors as follows:

1. Metastatic tumors of bone.
2. Periosteal fibrosarcoma.
3. Osteogenic tumors, benign and malignant.
4. Inflammatory conditions.
5. Benign giant cell tumor.
6. Angioma, benign and malignant.
7. Ewing's tumor.
8. Myeloma.

In as much as this paper has to do with primary bone tumors, a discussion of the metastatic tumors of bone and inflammatory conditions will be left out. These, I think, can be taken up as separate entities at some future time.

Articles by Codman, Ewing, Bloodgood, Phemister, and Coley, together with Kolodony's monograph, dealing with osteogenic sarcoma, have been freely drawn up in an endeavor to review and bring the subject in a more simplified manner.

In the diagnosing of bone tumor, it is a self evident fact, that the essential thing is to determine whether the tumor is, or is not, malignant, as whatever procedure is to be introduced is entirely dependent upon the diagnosis. Therefore, a working scheme may help simplify any individual problem and help to properly classify the tumor. This working scheme involves several factors. First, it should consider if possible the point of origin of the tumor, together with its location. Then, we can consider the bone changes. After all, in viewing an X-ray film, we have two main factors to consider, namely: bone production and bone destruction. Thus, if we view an X-ray film, the first point to consider is whether the tumor involves the periosteum or the medullary canal; and whether it is at the end or in the shaft of the bone; and secondly the evidence of bone destruction and bone production. Thus, in the medullary canal we can expect to find sarcomas, myelomas, fibromas, bone cysts, enchondromas, and giant cell sarcomas. Aside from the primary bone tumors in the medullary canal, we can always bear in mind the fact that metastatic carcinoma and metastatic hypernephroma are prone to occur in the medullary canal.

It is well to recall at this time that the nutrient artery of the long bone enters about the middle of the shaft, and metastasis by the blood stream will more frequently be

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present near the center of the shaft of the bone, as a result of this anatomical fact. At times metastasis occurs in the region of the great trochanter of the femur, and at the insertion of the deltoid in the humerous. This fact has led to the belief that these latter metastases probably occur by way of the lymphatics, as it is in these areas that deep plexus of lymphatics have been found in close proximity to the bone. On the other hand, metastasis to the skull, brain, lungs, and liver; and to the central portion of the bones, must be by way of the blood stream.

It is likewise well to remember that after fifty years of age, carcinoma of the thyroid, breast and prostate, and hypernephromas are prone to metastasize in the long bones, and unless one is alert, may be easily confused with a primary bone tumor.

In the cortical area, we look for osteogenic sarcomas, osteomas, enchondromas, ossifying hematomas, myositis ossificans, benign chondromas, and exostoses.

We should also observe evidence of reaction on the part of the preexisting bone to the bone tumor. If there is a bone production present, we may have a periosteal sarcoma, an osteosarcoma, an osteoma, an exostoses, an ossifying hematoma, a myositis ossificans, an enchondroma, or a bone cyst after fracture has occurred.

The condition of the cortex, whether expanded or destroyed, is highly important. Thus, enchondromas, bone cysts, giant cell sarcomas, and fibromas expand the cortex, whereas, sarcoma, carcinoma, hypernephroma, and periosteal sarcoma rapidly destroy the cortex of the bone. Therefore, one can say that malignancy invades quickly and that non-malignant tumors seldom, if ever, invade the bone.

A process of elimination thus seems to be in order, and while it may be impossible to locate the point of origin in a well advanced tumor, yet with certainty the production or destruction of bone can be determined, as can also be seen the condition of the cortex and the invasive element.

Malignant bone tumors usually do not occur in the phalanges, and bone tumors occurring in the flat bones, for the most part, are not usually so malignant as those occurring in the long bones.

Cartilage is quite resistant to tumors, but is rather easily attacked by infections. Hence, we seldom find cartilage invaded by tumors. If a lesion involves both sides of a joint, usually it is not a malignant tumor. Therefore, if we have a knee involvement and see a process involving both the lower end of the femur and the upper end of the tibia, one would think more of an inflammatory process. Again, in the ilium one may see a tumor invading the iliac bone up to, but not through the sacroiliac synchondrosis. On the other hand, a process involving the sacroiliac synchondrosis and extending on both sides, would swing the diagnosis away from a bone tumor to an infectious process.

Concerning the etiology of primary bone tumors, the field is open wide for speculation. The one familiar statement that these tumors are the result of misplaced embryonal rests of tissue, seems to be in the background. Kolodony in his excellent article on bone sarcomata, states that it can not be denied that trauma seems to be frequently associated with the origin of bone sarcoma. However, several other good men are of the opinion that history of trauma obtained in the average case, is present because the tumor antedated the trauma, and so weakened or disturbed the function of the affected member that the trauma resulted. However, it is apparent that careful studies have been made along this line, and that trauma is accepted for the most part, as a causative factor in the formation of bone tumors.

It is pointed out, that there is a growth restraint reached on the part of the cells at maturity of the human body. At the time of an injury, this growth restraint is released locally in the area traumatized and repair takes place. When repair has taken place sufficiently, this growth restraint is again in evidence.

Obviously, if there was not some conceivable growth restraint on the part of the cells of an animal organism, potentially this organism would grow to gigantic proportions. This growth restraint phenomenon so far has baffled all analysis. When a history of tumors runs in a family, as it does in numerous cases, it is quite evident that there is some disturbance to this function in this particular group of people. Likewise, in an individual, this growth restraint in localized area, which has been subject to a trauma, may be destroyed and as a result, the cells repairing the tumor continue their unchecked growth to the formation of the tumor.

After all these tumors for the most part are composed of cells which fail to reach their maturity, and it is conceivable that the temporary elimination of the growth restraint in the traumatized areas, explains the overgrowth of cells, with resultant tumor formation.

However, certain bone tumors, such as Ewing's tumor, give some evidence of possibly being bacterial in origin. If one recalls

that a temperature is present with this tumor; frequently pus cells and frank pus are found; then, it may remain for some researchers to show the causative factor of Ewing's Tumor to be of bacterial origin.

Again, multiple cystic disease, or osteitis cystica fibrosa is due to hyperactivity of the parathyroid glands. The finding and removal of adenomas of a parathyroid cure these cases.

Solitary cysts have been thought to be due to a metabolic disturbance, possibly a faulty calcium metabolism.

Geshicter and Copeland offer the theory that bone cysts and giant cell tumors are the result of hyperplasia of the osteoclasts, which normally proliferate as a step in the histogenesis of the bone that develops from preformed cartilage. This progressive osteoclasia certainly seems to have received appreciable consideration with regard to solitary bone cysts, though, the theory of trauma is held by a number of them, and Bloodgood holds to the theory of infection in the formation of bone cysts.

Recalling the classification of the Registry of bone sarcoma, a brief pointing out of the essential characteristics of each of the tumors may help in the study of the slides to be shown subsequently.

PERIOSTEAL FIBROSARCOMA

Periosteal Fibrosarcoma is used to designate a type of tumor which lies next to the bone, but does not invade it. The tumor arises from the fibrous layer of the peritoneum, and not from the combian layer. The tumor remains encapsulated for a long time, does not infiltrate the surrounding tissue, but may cause absorption of the bone by pressure. Microscopically, the cells are preponderantly of the spindle cell type, and there is no tendency for bone or cartilage to be present. This fact differentiates this tumor from the osteogenic sarcoma, which according to Codman, arises from the osteoblastic layer of the periosteum. A characteristic feature of an X-ray of this tumor, is the fact that one can see the shaft of the bone running through the tumor, the outline of the tumor being rather indistinct.

There may be some changes in the shaft due to pressure, but invasion of the bone by the tumor is not present, and is not seen in the X-ray film. The absence of invasive ability by this tumor makes the prognosis in the more favorable group. The fact that the fibrosarcoma surrounds the bone with an intact shaft, also helps differentiate it from the highly malignant sarcoma arising from fascia.

OSTEOGENIC TUMORS

The benign osteogenic tumors are as follows:

1. Exostoses
2. Osteoma
3. Fibroma
4. Chondroma

1. *Exostosis* are frequently multiple. In the slides to be shown, there is a case in which seventeen of these tumors are present in one boy. The tumors appear near the epiphyseal line, usually grow parallel to the shaft and away from the nearest epiphysis. Quite often they have caps of glistening cartilege. Chisseling them off from the bone suffices for treatment. The Registry has cases of sarcoma developing in exostoses.

2. *Osteoma*: Osteomas may occur anywhere along the shaft of the bone, and usually have a more or less rounded base, and have no tendency to turn up parallel with the shaft, as does the exostoses. These tumors are cortical in origin and there is bone production without bone destruction. These tumors, of course, are benign and do not invade the tissue, but merely push them aside in their growth. Simply chisseling them off obtains satisfactory results.

3. *Fibroma*: Bone fibroma are very rare. They usully originate in the medullary canal and occur as single tumors. They thin out the cortex, but do not destroy it. There is no expansion of the cortex, as in bone cysts, and they are not multiocular. No new bone formation takes place when these tumors are present. Simple currettment relieves the condition.

4. *Chondroma*: Chondromas, sometimes classified as osteochondromas, depending upon whether bone is present, may be either medullary or cortical in origin. They produce bone destruction with expansion of the cortex, usually causing a more or less cylindrical tumor. They are definitely benign, but may undergo sarcomatous degeneration. The presence of islands of cartilage through out the tumor, together with the absence of an invasive element should assist in making the proper diagnosis. A favorite location for these in the phalanges of the hand.

MALIGNANT OSTEOGENIC TUMORS

Malignant osteogenic tumors comprise tumors arising from bone producing cells, or osteoblasts. Depending upon the developmental stage of the osteoblast cells, we may have a preponderance of cartilage, hence the word, osteo chondroma of the old classification. The development may vary from a simple spindle cell to mucoid, to cartilage, and to even true bone cells. From the above then we may have an osteogenic sarcoma without the appearance of bone, but potentially this tumor is capable of producing

bone. If the tumor is slow growing, the cells my reach their ultimate maturity of bone cells, or possibly, depending upon the rapidity of growth, they may only reach the stage of cartilage. If they do not become differentiated, they may remain as spindle cells and never reach the other stage. These tumors rapidly destroy the involved bone, and if slow growing, bone production and bone destruction both take place. The undifferentiated cells continue to destroy bone, while the mature cells have characteristic bone formation.

To subdivide osteogenic sarcoma into the various groups, varieties, and stages, we complicate the classification, and it is for this purpose that Ewing gave the term of osteogenic sarcoma, which was immediately accepted in this county.

Myxomas have been claimed by Bloodgood to be an anatomical entity with definite origin. Regardless of Bloodgood's work, it seems that the majority of the men believe that myxomas are phases in the growth of cells, producing osteogenic sarcoma. The chemical analyses of myxomas and chondromatas show both of them to contain a similar mucilaginous protein, lending evidence to the fact that myxoma is merely a step in the formation of the tumor.

The Registry recognizes four anatomical types of osteogenic sarcoma:

1. Periosteal
2. Medullary and subperiosteal
3. Sclerosing
4. Telangiectatic.

So far as a clinical diagnosis is concerned, this division apparently is unnecessary. Also, from a microscopic standpoint, these tumors are not different, except as to behavior of the cells.

The term, Periosteal sarcoma has always been a favorite one, because involvement of the periosteum is one of the most widely recognized X-ray features in a bone tumor. Inexperienced interpretors of X-rays will make errors, if they expect every osteogenic sarcoma to present the fanlike radiation perpendicular to the shaft of the bone, and the lipping of the periosteum, so characteristic of the old termed periosteal sarcoma. The appearance of this fan-like striation does not necessarily have to be present to make a diagnosis of osteogenic sarcoma, and neither does its presence definitely prove that an osteogenic sarcoma is present. This same fan-like formation has been seen in low-grade chronic bone infections, both pyogenic and tuberculous. Sclerosing sarcoma may be only a temporary hardening of the tumor seen at the time under observation, and this hardening characteristic may disappear later in the progress of an osteogenic sarcoma.

You will note that the last classification under the malignant osteogenic tumors, is that of the telangiectatic variety. Now, it will be seen that the 6th classification of the Registry is angioma. Kolodony states that there has been no true angioma reported with the Committee, and Codman believes that there is no such tumor for this classification, and that the old term Bone Aneurysm and its synonym Angiosarcoma should be listed under the telangiectatic classification of osteogenic tumor.

Osteogenic sarcoma is primarily a disease of the young and is a solitary disease. Multiple Ewing's tumors may be found, and multiplicity is the rule in myeloma. Two features should impress themselves: the foremost one being that of pain. Ewing goes so far as to urge that every case of persistent unexplained pain in bone, should be regarded provisionally a sarcoma and treated by radiation. Pain precedes the appearance of tumifaction, and it is a symptom of such importance, that Ewing's suggestion is important. When the process encroaches on the periosteum the pain is very severe, particularly at night. The relief of this pain after radiation is quite spectacular. The second important consideration is trauma, as we have remarked above; and while the trauma may be sustained as a result of the appearance of the tumor and not be the causative factor of the tumor, still the preponderance of definite history of trauma in osteogenic sarcoma makes it worthy of consideration. Apparently this is true in medico-legal cases.

The skin over osteogenic sarcoma, unlike that over carcinoma or infectious diseases, is usually tense and glossy, and the superficial veins become noticeably dilated.

When an osteogenic sarcoma breaks through the surrounding periosteal capsule, there is a rapid increase in the growth rate.

Likewise, trauma whether surgical or from blows, frequently lead to an acceleration of the growth. As a rule pathological fractures are not typical in osteogenic sarcoma possibly due to the fact that the pain and swelling restrict the activity of the patient.

Another feature to be considered is that the joints near these tumors are usually freely movable, whereas in the inflammatory diseases there is restriction of nearby joint motion.

Frequently is the diagnosis of articular

rheumatism made in cases of bone tumors, yet examination shows the joint to be freely movable.

If you will recall, it was stated that the joint cartilage delimits the extension of osteogenic sarcoma. An extension into the joint is not seen unless a fracture occurs through the cartilage.

Ordinarily sarcoma metastacize by way of the blood stream, but malignant bone tumors must metastacize by the lymph channels as well, as witness metastatic tumors near the great trochanter and the head of the humerus.

In the diagnosis, Ewing is of the opinion that the use of an eighteen gauge needle attached to a syringe, plunged into the tumor under local anesthesia, with the production of suction by the plunger, will procure enough tissue for correct microscopic examination.

Phemister has found in a number of cases that exploratory operation for diagnostic purposes, if attended without undue trauma, is entirely permissible, and not followed with dire results.

In the matter of therapy of the osteogenic sarcoma, the fight was waged for many years for and against the use of Coley's toxin. Growths of ten day old bacillus prodigiosus sterilized by heat, and three week old streptococci similarly sterilized, in glycerine, has been accepted after many experiments with various combinations of bacteria, as being the best to procure immunity against these tumors.

It is Coley's belief that if after about four weeks of intensive toxin treatment, no marked improvement is found, then the expectation from this therapy is poor. When the tumor responds to the treatment, Coley recommends its continuance for a year or more longer. The question of how Coley's toxin influences the tumor has not been decided.

At present, amputation, radium, and X-ray therapy, supplemented by the use of Coley's toxin, is the line of choice.

Coley is enthusiastic, and is conceded to have had the handling of more bone tumors than any other man in the United States, but yet such men as Simmons of Boston, after considerable experience, do not consider Coley's toxin of value.

The registry of bone sarcoma takes the stand, that a number of Coley's cures have been due to incorrect diagnoses, his osteogenic sarcomas being in reality giant cell tumors. However, when one reads Coley's article, particularly in cases that were sent to him as inoperable and hopeless, by such men as Deaver, Stewart McGuire, and other prominent surgeons, wherein Coley was able to demonstrate a cure, certainly there is a great deal of favor for the use of Coley's toxin.

BENIGN GIANT CELL TUMOR

Giant cell tumor is a relatively benign tumor, usually medullary in origin. It is generally conceded that this is not a true sarcoma, though we still find the name giant cell sarcoma applied to it. Its etiology is still in dispute. One group of leaders in the study of bone tumor, insisting that it is a neoplasm; while men like Mallory and Codman claim that it is of an inflammatory nature. Mallory uses as his argument the appearance of giant cells, which he considers the same as those found wherever there is a calcium salts absorption, resulting in fusion of endothelial leucocytes. This fusion causes the so-called giant cells. The other remaining cells of a giant cell tumor microscopically are the same as found in any inflammatory tissue.

Codman thinks the giant cell tumor is a repair process, following a hemorrhage of the nutrient artery within the substance of the bone.

Again, Geshicter and Copeland present a theory that both giant cell tumors and bone cysts are due to an abnormal proliferation of osteoclasts.

A giant cell tumor is usually of long duration and slow of progress, and is most often found in the ends of long bones. There is a gradual thinning out and expansion of the cortex of the bone. It is fairly well delimited both by the cartilage above and the normal bone below. The shaft of the bone is absent within the tumor, but yet beyond the margin of the tumor, the cortex of the bone and the periosteum show no abnormality; no lipping is present; and no reaction on part of the periosteum adjacent to the tumor is seen. When the bony shell is broken by the tumor, which is a very late phenomenon, it may be difficult to differentiate the tumor from an osteogenic sarcoma. However, the presence of an intact shaft of periosteum close up to the tumor speaks for giant cell tumor, as against sarcoma, and also against bone cyst which tends to develop down the medullary canal.

A typical giant cell tumor consists of solid portions and numerous small cysts, and it is this fact that causes the typical soap bubble appearance in the X-ray.

Giant cell tumors are found more often between the ages of sixteen and twenty-five, an age somewhat higher than that in which os-

teogenic sarcoma and Ewing's tumor are found.

Over half of the cases of giant cell tumors occur in the lower extremities. As a rule giant cell tumors are solitary, and the appearance of multiple tumors similar to giant cell tumors, is suggestive of osteitis fibrosa. There is moderate pain. The skin overlying the tumor usually is not of the glossy parchment-like character seen over osteogenic sarcoma, nor are the veins so characteristically dilated. On examination one can feel the bulky irregular shape of the tumor, whereas in the osteogenic sarcoma we have a more rounded fusiform shape.

Infection in a giant cell tumor is prone to be followed by a fatal hemorrhage or a fatal sepsis. In attempting a biopsy of a giant cell tumor, it is well to bear in mind the possibility of sepsis, even under the strictest precaution. If a biopsy is attempted, it is well to do a complete currettment on the tumor. Formerly amputation was the method of choice in treatment, and this was superceded by a less radical treatment, that of thorough currettment of the tumor. Coley's toxins have been used, but most often Coley used the toxin more as a prophylactic measure along with radiation after incomplete surgical operation. Excellent results have been obtained by complete currettage, followed by swabbing out the curretted area with pure carbolic acid and alcohol, and as some advise, with saturated solution of zinc chloride; and packing the cavity with gauze. During recent years, substitution of the use of radium instead of surgery, has been advised, and is being used at the Memorial Hospital in New York. If there is a recurrence under this line of treatment, then surgery still has to be resorted to. When the tumor does not respond promptly under radiation surgery is obviously indicated. Care must be used to prevent pathological fracture in these cases whatever method is used.

ANGIOMA

The Registry has given a separate classification to Angioma, differentiating this tumor into benign and malignent. Codman, however, states that these tumors are very rare, and as I stated previously, Kolodony was of the opinion that this should be classified under the osteogenic sarcoma, as of the telangiestatic variety.

I will show you a slide of one of these tumors in question, which would come under the old name, Bone Aneurysm, and I think the slide will demonstrate that this tumor could be classified under the telangiectatic type. Until recently only three of the so-called benign angiomas of bones have been accepted by the Registry.

These three benign tumors resembled somewhat giant cell tumors. Microscopically, they are cavernous angiomas; and one of them responded to the X-ray, and the other two were excised successfully.

Due to the fact that the giant cell tumor, as we have seen above, may be quite vascular at times, even the cysts filled with blood; it may be possible that Benign Angioma is merely a very vascular type of a giant cell tumor, where as the malignant type is an osteogenic sarcoma.

At this point it is well to mention one unclassified type of bone sarcoma, a very rare condition known as angio-endothelioma. This type has been confused with angioma sarcoma, due to the fact that both of them have such an abundant vascularity.

Clinically, the condition resembles osteogenic sarcoma. Usually the pain does not appear as quickly; the tumor grows to a large size slowly; and usually remains confined with its investing capsule. Quite often when a diagnosis of angio-endothelioma is made, it is a secondary evidence of angioma and endothelioma of the soft parts, and not of the bone proper. It does not respond to radiation.

If you recall, overgrowth of blood vessels is a prominent feature in many malignant bone tumors, and bone tissue is often eroded by angiomas of the soft parts, such as those seen in the skull. The probabilities are that these tumors will not be classified as separate entities.

EWING'S TUMOR

The fifth classification is interesting from several standpoints. It remained for Ewing of Cornell in 1921, to differentiate this tumor from all other primary bone tumors. This tumor has a predilection for the end of the small bones of the extremities and of the skull. In the femur and humerus it has a tendency to be more prevalent in the shaft of the bone than in the ends, with a tendency to extend in all directions. In the beginning of its manifestation, the resemblance of the bone involvement in the x-ray film to osteomyelitis is quite striking. As the tumor grows within the medullary canal, the periosteum reacts and shell after shell of new bone is laid down giving the typical onion skin appearance seen in the X-ray. This continues until the tumor finally breaks through the periosteal shell and involves the soft parts.

Ewing's Sarcoma is an endothelio-myeloma of the bone. There is no definite evidence as to the origin of this tumor. Ewing, himself, does not believe that the appearance of the endothelial cells in the tumor is the

result of overgrowth of endothelial cells of the blood vessels or lymph channels, but thinks the tumor may arise from the endothelial cells around the lymph channels. The sarcoma differs from other sarcomas in that we have multiple tumors. The osteogenic sarcoma is usually a solitary disease, though we do have metastasis. In Ewing's sarcoma, the common thing is for several foci of the tumor to appear in the same bone, and early in the disease to have other bones involved.

The clinical history, the X-ray findings, the systemic reaction, elevation in temperature, and the increase in the leucocytes, mimics an osteomyelitis so closely that a mistaken diagnosis is quite a common thing.

The age incidence of Ewing's tumor also fits in with osteomyelitis. Of the forty cases of definite Ewing's sarcoma accepted by the Registry and studied by Kolodony, twenty cases of them occurred between the ages of six and fifteen years, a little earlier age incidence than that for the appearance of the osteogenic sarcoma.

There is a definite predilection for the male sex, there having been three times as many tumors occurring in boys as in girls.

In diagnosing Ewing's sarcoma, the history is more important than in any other primary tumor. It is so characteristic that it is well to give the typical history, obtainable in practically every case.

A child falls down and bruises a limb, probably running a temperature for a few days, limps, is confined to the bed, but then improves. Possibly, a few weeks later there is again complaint of pain, together with elevation in temperature, possibly as high as 102, an increase in leucocyte count from 12,000 to 15,000, and local signs of swelling and erythema over the bone affected. The child improves in three or four days, and in a few weeks again the same picture takes place. After this has occurred five or six times, on the subsiding of the swelling, the dropping of the temperature, and the advent of improvement, a tumor mass is then felt. Sometimes this will be many months after the initial onset. An X-ray is then taken and evidence of bone involvement is seen. The child may be operated at this time for an osteomyelitis, or it may be that an operation is done during one of the acute attacks.

At the periphery of the tumor there may be pus and inflammatory tissue, so that if a portion of this is sent to the pathologist, the report comes back as that of an osteomyelitis.

The child improves after the operation, but in a few weeks the condition again lights up and further evidence that a tumor is present, and that the condition is not an osteomyelitis becomes self evident. Not uncommonly a fungating mass protrudes through the incision disclosing the true character of the tumor. The regional lymph modes are involved, not by an inflammatory reaction, but by metastasis by way of the lymph channels.

When the X-ray is examined, it is seen that there is a myeloma present with destruction of the shaft of the bone. Also, a destructive roughening of the periosteum is seen. layer after layer of periosteum is laid down parallel to the shaft, producing the onion skin appearance commented on above.

Ewing's sarcoma has a tendency to involve the long pipe bones, the tibia being most often involved, then the fibula, the humerus, the ulna, and lastly the femur. Metastasis occurs more often to the lungs and skull.

Ewing's tumor is prone to be simultaneous in several bones, and amputation early is of no value. Coley reports a number of unoperated Ewing's sarcomas cured by the use of radium pack with the Coley toxin. A number of Ewing's tumors are reported well four years after radiation alone.

Coley analyzing 115 cases of endotheliomyeloma, or Ewing's sarcoma, is of the opinion that early amputation followed by prolonged treatment with Coley's toxin, is the method of choice.

Coley's toxins produce a rather severe constitutional effect, followed by a marked increase in the production of lymphocytes, and it is thought that possibly the activity of the lymphocytes accounts for the cures obtained in cases which were apparently considered hopeless by other prominent clinicians.

MYELOMA

Myeloma, the last classification of the Registry, gives us no clinical history of any value from a diagnostic standpoint. Myelomata favors the mid portion of the long bones, especially the humerus and femur. The tumors form nodules of varying sizes within the marrow cavity. The bone is destroyed quickly, the tumor expands in the transverse diameter of the bone. The tumor gradually protrudes beneath the periosteum, and there is a periosteal reaction over the advancing tumor. As a result of this periosteal reaction, the bone cortex seems thinned out and the medullary cavity appears widened. Later the periosteum shows multiple perforations and the tumor infiltrates the surrounding tissues. Bending and deformity of the weight bearing bone takes place, together with fractures.

The origin of this tumor is unknown,

though the cells closely resemble plasma cells of the myelocyte variety.

It affects males more than females, and has a late age incidence, occuring more often between the ages of 40 and 60 years.

It is considered a multiple lesion, occurring and developing in multiple foci. Again trauma is usually given in the history.

In making the diagnosis the x-ray film is the main evidence.

The multiplicity of the involvement suggests a multiple myeloma more than a Ewing's sarcoma. The age incidence and the lack of systemic reaction, as found in the Ewing's sarcoma, will help. The albuminuria and the presence of Bence-Jones protein in the urine is pathognomonic for myeloma. However, this is not a definite evidence, as many cases of multiple myelomas do not show Bence-Jones protein. On the other hand, Bence-Jones protein has been found in urine of cases of metastatic carcinomas, particularly where the metastasis is in the medullary canal. The bone is slightly expanded by the individual myelomata so that the cortex presents in an irregularly wavy outline, not uniform in thickness. There may be minute nodules in the cortex.

The X-ray picture may approach that seen in Paget's Disease of the long bones.

Myeloma is said to be affected by radium and high voltage x-rays. Coley's report of cases, shows cases having been on record as living ten or more years after radiation.

TREATMENT IN GENERAL OF BONE SARCOMA

Codman, reviewing the papers by Coley, Bloodgood, Simmons, Ewing and Meyerding given in symposium at the Memorial Hospital in May, 1934, states that it was generally agreed that amputation was indicated in all early cases of definite sarcoma in long bones, as soon as the diagnosis could be made with reasonable certainty.

In individual cases there always comes up the question of preoperative and post operative use of X-ray, radium, or toxins, or the combination of both in addition to the surgical side of the question.

Coley is against preoperative radiation, Bloodgood is for preoperative radiation: Coley is in favor of toxins; the Mayo Clinic uses toxins where feasible; and Simmons does not advocate the use of toxins.

Rectum and Genito-Urinary Organs in Lymphogranuloma Inguinale. Gohrbandt says that lymphogranuloma inguinale has so far been considered a veneral disease unrelated to syphilis, gonorrhea, tuberculosis, carcinoma, soft chancre, or ordinary infection. Diagnosis in the early cases is easy but the advanced case may be difficult. Frei's skin reaction, when positive, is of the greatest importance in diagnosis.

SOME URINARY INFECTIONS IN CHILDREN*

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The most common infection of the urinary tract in childhood is usually designated pyelitis. It is obvious, however, that the same infections which occur in the adult can occur in the infant or child, and we should realize in the light of our knowledge that the term pyelitis really is not a diagnosis of a condition always characterized by the same pathology, but rather it embraces cystitis, pyelonephritis, pyelitis, ureteritis, or cysto-uretero-pyelitis. It would be better to designate such conditions as pyuria until such time as enough information is obtained to properly classify a given illness.

Urinary tract infections may be spontaneous or may be secondary to some other lesion such as stone, hydronephrosis, etc. The colon bacillus is found in at least eighty-five per cent of the spontaneous group, while the staphylococcus is frequently found in the secondary group. These infections often follow in the wake of acute infectious diseases, especially those of the respiratory tract or involving the ear, nose and throat The organisms most often present are colon bacilli, staphylococci, alone or together. More rarely bacillus Friedlander, bacillus proteus, bacillus pyocyaneous, bacillus typhosus and various anaerobes are seen.

When bacterial investigations were made in children who developed pyelitis following grippe infections, staphylococci or streptococci were found nine times out of ten as primary organisms early in the course of the disease, either alone or combined with colon bacilli: later on, in all instances only the colon bacilli were found. When making such investigations one cannot rely on cultural methods, because the colon bacillus overgrows other organisms. If smears from freshly obtained urine are stained immediately, cocci will be found, if present.

Observation and experiment indicate that the urinary tract may be infected by both ascending and hematogenous routes.

Experiments on excretion of bacteria in urine are contradictory. Following the intravenous injection of staphylococci, colon and anthrax bacilli the organisms have been recovered in the urine within five or ten minutes. Serial sections of these kidneys often failed to demonstrate lesions, which fact would tend to show the physiological nature of such an excretory phenomenon, as

*Read before Muldraugh Hill Medical Society.

the time would be too short for pathological changes to take place. On the other hand some observers have claimed that the glomeruli are impervious to the passage of organisms, and that the lesions are always found in the kidney when organisms are excreted in the urine. The latter view is largely accepted. The chief argument in favor of the hematogenous route is the frequency with which the colon bacillus and staphylococcus have been demonstrated in the blood of patients with kidney infections, as well as the presence of bacteria in the blood occurring before bacteria were found in the urine. The renal infections secondary to foci in the nose, throat, sinuses, ears, teeth and to grippe, furuncles and osteomyelitis are unquestionably hematogenous.

The theory of an invasion through the lumen of the ureter has always seemed probable to clinical observers, although this path has been repeatedly questioned. The infections occurring in infancy and in pregnancy are considered by many as ascending in origin, a viewpoint which is supported by the fact that colon bacilli have been found in the bladder urine of sixty to eighty per cent of gravid women free from urinary symptoms and in ninety per cent of normal female infants, according to Beer and Hyman. The high percentage of spontaneous infections in female children is also seen as an argument in favor of the ascending invasion.

The reflux of urine from the bladder to the ureter and kidney pelvis also plays an important role in ascending infections. That this can occur in normal urinary tracts has been observed repeatedly. It is probably due to the simultaneous increase of systolic vesical pressure and the opening of the ureteral orifice.

Whether or not infection of the kidney can take place by way of the lymphatics in the ureteral wall is uncertain.

Among the infrequent causes of renal infection of a hematogenous nature may be mentioned: localized suppuration in the lower urinary tract, direct contact infection from trauma, and operative or cystoscopic procedures.

Of all the predisposing factors favoring infection, urinary stasis and general debility are the most important. When a pyelitis occurs during or after an acute infectious disease, it is not often a complication but rather due to lowered resistance. Related causes are: dehydration, deprivation of vitamines, malnutrition and the lowered resistance following respiratory infections and nutritional disturbances.

Although no accepted pathological basis for pyelitis has been found, the lesions described vary considerably and offer some guide as to the path of infection. A pyelitis alone seldom exists, and accompanying lesions in the kidney are found in most autopsy specimens. In coccal infections observed clinically as well as in experimental pyelitis caused by hematogenous injections of the organisms the lesions are predominately cortical (although mucosal inflammations of the pelvis have also been noted) while in ascending infections they are more marked in the pelvis and peripelvic tissues. Complete microscopic studies of kidneys, removed at autopsy are very few in number. Chown in a review of the subject only found nine such instances in the literature. Eight showed a suppurative nephritis with insignificant lesions elsewhere in the urinary tract while in one there was cystitis alone. He reports additional cases and concludes that the lesion in "pyelitis" is a multiple focal suppurative interstitial nephritis with an occasional association of some degree of pyelitis and rarely cystitis. Others reported similar findings.

Beer and Hyman say that cystoscopy of cases diagnosed as pyelitis, with all the manifestations of this disease, has shown cystitis alone, or infections without involvement of the ureter or bladder, or finally, a ureteritis extensive to a degree not suspected from the clinical findings.

Pyelitis has even been observed in the new born infant, the term neonatal pyelitis having been applied to the condition.

There are two general types of symptoms presented: In the first, general constitutional symptoms (fever, anorexia, nausea, vomiting obstipation, abdominal distention and irritability) predominate. In the second, urinary symptoms (frequency, burning, renal pain tenesmus) are most important.

The temperature may be intermittent, of the continuous remittent type, or malarial like in character. Chills are not unusual at the onset, and of no grave prognostic concern. If repeated however, they generally indicate either a rapid extention of the process in the parenchyma, or retention of purulent urine in the pelvis.

In marasmic children, the course may be afebrile, or the temperature subnormal with intermittent periods of fever.

The symptoms, signs and urinary findings are familiar. In the absence of complications, pyelitis runs its course in one to three weeks. The disease may become subacute and persist for months with intervals of apparent well-being; or it may even remain chronic. Persistence of the infection is generally due to either lowered body resistance, to a calculus in the kidney or ureter, to a persistent suppurative focus elsewhere in the

body, or to stasis caused by a congenital anomaly.

If pyuria persists following intensive treatment for one month, cystoscopy and roentgenography are indicated, because the etiological factors responsible for chronic pyelonephritis may lead to a pyonephrosis.

Mortality rates reported from various clinics vary from four to twenty per cent, death resulting from suppurative nephritis, pyonephrosis, pneumonia or gastro- intestinal disturbances. This is obviously not accurate, because most cases subside without hospitalization.

The treatment consists in a free water intake by mouth and subcutaneously if necessary. I believe that alkalinization causes little curative effect though it may relieve discomfort temporarily. Hexamethylenamine and ammonium chloride in large doses have been successful in many cases. From work previously done by Shaahl and Janney it is known that the colon bacillus is inhibited if the acidity or alkalinity of the urine is increased beyond a certain point (pH 4.6 to 5 acid and pH 9.6 alkaline). The optimal growth of colon bacilli takes place at pH 6 to 7; this is the average reaction of the urine of a person who is on a mixed diet.

Helmholtz's experiments showed that a certain dose of methenamine with urinary acidity of PH 5.0 would produce death of the colon bacillus in twenty-four hours, whereas ten times the dose of methenamine in urine with a pH of 6.0 would not produce bacteriostasis in twenty-four hours. In acid-control experiments the pH of the urine and broth was constantly below 5.2 when bacteriostatic or bactericidal effect was evident. When administering methenamine he prescribed 1 gm of ammonium chloride four times a day which usually gives the urine a PH of between 5.5 and 5.0. The majority of patients with chronic infections of the urinary tract were cured by this combination. If urinary anomalies are present, in spite of a concentration of formaldehyde sufficient to produce irritation of the bladder, it is at times impossible to sterilize the urine.

It is probably not necessary to obtain bactericidal urine in order to clear up urinary infections. If complete bacteriostasis can be effected, the constant washing out of the urinary tract should in most cases suffice to overcome the infection.

In searching still further for means of acidifying the urine and thereby inhibiting the growth of the colon bacillus. Barbarka suggested the ketogenic diet and gave a method of calculating the diet so as to know the amount of carbohydrate, protein and fat necessary in each case.

In further experiments Helmholtz showed that bactericidal action was never observed when the normal urine showed a pH of 5.2 or higher, but when ketone bodies were present bactericidal action was present at P. H. 5.3 to 5.8 He thought this was due to the ketone bodies themselves. He has reported successful treatment by this method in cases of urinary stasis which had resisted other methods.

It has been found that the most common type of colon bacillus (Escherichia coli) is more sensitive to this treatment than the other bacilli which microscopically are somewhat similar, such as the aerobacter aerogenes of the colon group, species of the bacillus pyocyaneous and bacillus paratyphosus and bacillus proteus ammoniae.

When urea splitting cocci are present, especially in association with a calcium phosphate stone, it is impossible to clear up the infection until the stone is removed and the urine rendered acid. When all therapy by mouth has proved unavailing, irrigations with one per cent phosphoric acid are helpful. Randall has shown that even two per cent or three per cent may be used without irritation of the mucosa. Another means at our disposal is innoculation of the bladder urine with acid producing organisms, i. e. emulsion of Bulgarian bacilli. After the urea splitting organisms are removed the Bulgarian bacilli can be removed by means of a few antiseptic irrigations.

Milk Sickness.—Hardin has seen this disease for the last sixteen years and has treated more than 100 cases. Alcohol seems to have an affinity for the substance causing the disease and there seems to be nothing better as an antidote than alcohol pushed to the point of intoxication. She also finds that gastric lavage, duodenal drainage, hypodermoclysis of physiologic solution of sodium chloride and dextrose work extremely well. A majority of patients treated without alcohol in some form or other usually die. The custom of the mountaineers treating it with brandy and honey cannot be dismissed lightly. No difference has been found in the effect of brandy and any other type of alcohol. In man, the principal symptoms are loss of appetite, constipation, pain and stiffness in the legs, languor, fatigue, nausea and vomiting (which may be continuous), the tongue is red, the breath smells of acetone, the temperature is subnormal and the blood pressure is low. There is a lump or heaviness felt in the pit of the stomach, which is not relieved by vomiting and is felt until the patient is well. Overheating or violent exercise will bring about an acute stage of the disease, as it does in animals.

SOME NEWER ASPECTS OF ARTHRITIS*

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Of necessity, this is a somewhat short paper on a rather long subject. Perhaps a more fitting title would be "An Up-to-Date Survey of the Subject Arthritis." Like most subjects where the field of knowledge is limited, the literature is voluminous. From the printed matter of the past two years on arthritis here and abroad, I have made a digest and summary. To this has been added the reports of the American and British Committees for the Control of Rheumatism and my personal experiences. From the combination of these, simple, important facts will be presented.

You are not to be bored at any length with statistics. It matters little how many times around the world, if laid end to end, these arthritics would stretch; far too many show ankylosis and could not be stretched anyway. Suffice it to say that the tremendous number of these joint sufferers offer at once a reproach and a challenge to medical men everywhere. Data are not available for Kentucky, but possibly it may be convincing to mention that in one state where a house-to-house survey was conducted, it was found that there were more cases of chronic rheumatism than of heart disease, tuberculosis, and cancer combined. One visit to an institution like the King's Daughters Home for Incurables; one observation of the hideous deformity of great men like Dr. J. Chalmers DaCosta, should and must arouse us to our opportunities and duties as practicing physicians.

While I have prepared a few charts, I shall take no chance on losing my audience by turning out the lights and showing slides. I have long since discovered from lecturing to medical students and talking to doctors that arthritis is not a popular subject. I believe this is due largely to an unwarranted pessimistic attitude on the subject generally: and to the unfortunate maze of classifications and nomenclature that have sprung up. I pledge simplicity as my keynote.

ACUTE RHEUMATIC FEVER: There is a growing tendency everywhere to consider this disease a cardiac condition, with joint manifestations (probably allergic). This is well supported by the extensive heart involvement and the transient arthritic changes. In a paper on arthritis, therefore, nothing more need be said on Rheumatic Fever—unless one might mention the serum offered by Small, produced from an indifferent streptococcus, and not generally accepted as of specific value in this disease.

ACUTE SEPTIC ARTHRITIS: Under this heading is included the joint conditions which develop in connection with disease elsewhere in the body, (pneumonia, typhoid, gonorrhea, etc.) It is rather generally agreed that the proper method of caring for this group of cases is to support and protect the joints, while treating vigorously the systemic condition. An exception is found in the case of Gonorrheal Arthritis. Here it has become the practice more and more to withdraw about an ounce of fluid from the infected joint and inject 75 to 100 c. c. of air. Permanent ankylosis is thus oftentimes avoided.

ACUTE ALLERGIC ARTHRITIS: Besides serum sickness, many would include Intermittent Hydrarthrosis in this class. In this latter extremely rare condition (less than 100 having been reported in all literature), I have had the good fortune to see and report one case. Vaccine and Sodium-thio-sulphate intravenously have helped most in the majority of these cases, but recently reported synovectomies promise more for a cure when patients will submit to this radical procedure.

ACUTE TRAUMATIC ARTHRITIS: There is considerable difference of opinion as to the management of these cases, but an increasing number of men are advocating early surgical treatment. Chronic arthritis will follow many of these traumatic cases, and an operation will be necessary anyhow for degenerating cartilage, et cetera.

When we come to the matter of Chronic Arthritis, the most important field of joint diseases is entered. The term "important" is used because of the number of cases involved, and the great amount of investigating study going on in this connection. Such research, for example, has shown that all chronic joint disease is due either to proliferative changes beginning in the synovial membrane, or to degenerative changes originating in the joint cartilage. It has been demonstrated also that such apparently distinct arthritic conditions as Still's Disease, Acute Rheumatic Fever, Atrophic Arthritis and Hypertrophic Arthritis are due to different responses of different tissues to one and the same organism. Furthermore, this organism has been repeatedly identified as an hemolytic streptococcus—not the "green" member of the family, formerly accused. There have been found, then, "common denominators" of etiology, pathology and treatment in Chronic Arthritis, which simplify mightily an heretofore confused state.

CHRONIC METABOLIC ARTHRITIS: Such specific chronic conditions (as syphilitic and tuberculous arthritis) and metabolic (as Gout) will be dismissed without further ado. There is little new to report concerning

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them, and their recognition and treatment is generally well understood.

The two major groups will be discussed under the simple heading given them by the American Committee for the Control of Rheumatism, namely Atrophic and Hypertrophic Arthritis. A few words concerning generally the two types may not be amiss. Fossil remains show that the essential pathology has been the same for 8,000 years. Dwellers in the temperate zones—especially the chilly, damp portions, such as one finds in Louisville—suffer most from chronic arthritis. The South, which suffers much less than the North from acute Rheumatic Fever, is particularly fertile soil for Chronic Arthritis. It is no respector of persons or classes (the poor being slightly more susceptible for obvious reasons). Some of you will be dashed—others jubilant—to know that alcohol has been found harmful, tobacco innocuous, to the chronic joint sufferer. Those indulgent in the extremes of life—too active or too sedative—fall prey most easily to Chronic Arthritis, and nearly all have gastro-intestinal deformities. A "toxemia" plays a part in nearly every case. So much for generalities; now let us specify.

Atrophic Arthritis: (This may be known to some of you as "Rheumatoid Arthritis," "Chronic Infectious Arthritis," "Secondary Rheumatism," "Pseudo-Rheumatism," "Ankylosing Arthritis," or one of the dozen other names applied to it.) Important facts which have been determined and pointed out are the following: There is an hereditary tendency in more than half of the cases. The individual most frequently affected is a slended, ptotic woman—often a spinster, between the ages of twenty and fifty. This is the infectious type, par excellence, in Chronic Arthritis, and the offending organism the hemolytic streptococcus. Likely enough bad teeth, infected tonsils, or sinuses may be found elsewhere in this person who is the victim of vaso-motor disturbances, with lowered peripheral blood flow, low resistance generally, and a previous trauma. Allergic reaction to the organism involved probably accounts for joint manifestations, the early ones, at least.

Looking at the joint of the Atrophic Arthritic one sees first a periarticular inflammatory swelling, with villous synovial proliferation and thickening. The synovial fluid is greatly increased, and bye and bye adhesions and fibrosis precede the absorption of the cartilages. Finally atrophic bone and ankylosis complete the sombre picture of the untreated or poorly cared-for patient.

In telling you their story these sufferers will describe a gradual onset in several joints, symmetrically attacked, most likely the fingers and knees. The involvement migrates, with pain, swelling and stiffness noted (the latter, especially after rest), and as time goes on fibrositis (irritation of the muscles, ligaments, etc., about the joint), deformity and ankylosis will be complained about bitterly. Meanwhile, systemic features will include fatigue, weakness, nervousness, malaise, insomnia, feverishness, disturbed emotional states (particularly depression), anorexia, and other gastro-intestinal symptoms.

The observing clinician will note this periarticular swelling, especially in the middle joints of the fingers, giving a spindle shape to these digits which is almost pathognomonic. The feel is at first doughy; later, resilient. Tenderness is present at the joint, and will continue away from it as far as fibrositis extends. Interestingly enough, painless nodules like those found in rheumatic fever may be observed; and the lymph-nodes and spleen may be enlarged (especially in Still's Disease). In appearance these atrophic arthritis joints vary from red (and hot) to cyanotic (and cold). The passing of time will reveal muscle and bone atrophy, with thin, glossy skin, pigmentation and frequently associated Psoriasis. Generally, the patient will show a modest amount of fever, focal infection, and asthenia.

The above symptoms and signs will give the following clinical course: Mild cases may recover spontaneously. The more severe will progress to deformity, and ankylosis via this route—a joint, held in semi-flexion, surrounded by adhesions and fibrositis, becomes more and more drawn as spastic muscles contract and weakened atrophic muscles give way. Ankylsosis finally "sets" this grotesque deformity. Meanwhile, the functions of all systems become worse as deformity becomes progressive. The gastro-intestinal, respiratory and circulatory systems are most handicapped and the main impediment is a poorly functioning diaphragm. Thus is seen a vicious circle and it has been stated very properly by many investigators of this subject that improved general health often presages joint improvement.

X-ray observations in Atrophic Arthritis are of little value early. Later they will show a fuzzy appearance of the epiphyses, narrowed joint space, and at times cyst-like areas with osteophytes and deformities characteristic of hypertrophic arthritis. The most helpful laboratory assistance comes from a report of mild anemia and leucocytosis; increase in blood sugar and glucose tolerance; high agglutinins and positive cultures (blood and joint) for hemolytic streptococcus; accelerated sedimentation rate; and achlorhydria.

Differential diagnosis may be seen in Charts III and VI, and offer little difficulty to the careful student. Prognosis in Atrophic Arthritis is better than generally thought, it being possible to benefit markedly more than 70 per cent of these sufferers. Much depends upon the promptness and thoroughness of treatment; heredity; the type and temperament of the individual; and the joint affected (weight-bearing joints give a poor prognosis).

Much can be accomplished by treating the individual as a whole; removing pre-disposing and exciting causes; correcting diet; judiciously using drugs, vaccines, etc.; applying local measures; and preventing, as well as operating on the deformity. These procedures are chronicled in detail in Chart IV, and outstanding points only may be mentioned. One should stress rest; correction of defects in body mechanics; early removal of foci of infection; an optimal, low carbohydrate, high mineral, high vitamin (especially B) diet; light exercise and physiotherapy. Of the many drugs for the relief of pain, I have found Cal-Acetyl, Cincophen (in the form of Neo Cincophen, or Mono-Iodo Cincophen) and Calcium Ortho Iodoxybenzoate (Oxoate "B") the best. Wneeldon has reported recently on this latter drug—called by Pemberton "a glorified salicylate"—pointing out its many advantages. On the greatly mooted subject of vaccines, I would like to bespeak your consideration of the intravenous use of at least two varieties—the Clawson-Wetherby, or the Wyatt-Hicks. The discussion of this phase of the subject might easily consume a whole paper, and indeed I may make it the object of one at an early date. Suffice it to say that most of the discredit which has been heaped upon vaccines comes from the use of them subcutaneously, in the "shock" therapy, or in too small doses. The British Medical Association Committee reports the use of a stock vaccine made from two types of staphylococcus and 157 types of streptococcus. I submit to you, what could be expected from such a gun shot containing 100 more varieties than Heinz has pickles? You will not be disappointed in the careful use of adequate doses of vaccine intravenously in Atrophic Arthritis.

As for Sulphur therapy, intramuscularly and intravenously, I have found that helpful in a small group of cases. Increasing evidence indicates a sulphur deficiency in many arthritics by the Sullivan cystine or indican test, and replacement brings improvement.

As some of the above methods of treatment have increased in favor, hyperthermia (hot box) apparently has less devotees. It is certainly more severe and ends do not always seem to justify this means.

Hypertrophic Arthritis: Turning to this condition for the few minutes left at my disposal, let me say that this joint disease known also as "Osteo-arthritis," "Arthrosis," "Senile Arthritis," "Degenerative Arthritis," and so on, is defined as a chronic arthritis in the middle-aged, characterized by degenerative and hypertrophic changes in bone and cartilage. It shows some hereditary tendency, and appears most often in the stocky "well" type of male, forty or over, who evidences arterio-sclerosis, and a faulty gastro-intestinal tract. The menopausal period—in both sexes—frequently ushers in the condition.

There is no recognized infectious element primarily involved in Hypertrophic Arthritis, and etiology is ascribed to injury or trauma, toxemia, and endocrine disorders superimposed upon degenerating tissues.

The person evidencing this type of arthritis will likely have increased blood pressure, diminished peripheral (capillary) blood supply, easy fatiguability, faulty elimination and retained calcium locally. Pathologically, these joints, in contradistinction to atrophic arthritis, show no periarticular changes, little synovial membrane and fluid abnormalities. Cartilage will split to form chondro-osseous ridges and spicules. If these break off, joint mice are formed, and all about one finds eburnated, deformed bone.

Early complaints of these arthritics is chiefly stiffness. There is pain with use, and nerve impingement; relief from rest and heat. Involvement is less likely to be symmetrical, while fewer and larger joints show hypertrophic arthritis. The disalignment of joints is especially noticeable in the knee. Viewed objectively, Heberden's nodes, the knobby enlargement of the terminal joints of the fingers, are most striking. The joints are not much swollen, but irregularities and deformities soon appear, with crunching, limited motion. Poor body mechanics are noted, as well as "poker-backs," but never ankylosis. In the course of this condition there may be remissions and exacerbations, and the process may be arrested at any stage if properly treated.

The X-ray is more helpful than in Atrophic Arthritis. It is well to appreciate that Roentgen changes may be seen earliest in the hand and knee, and their presence in deeper joints (back and hip) inferred from these findings. Narrowed joint spaces from cartilage or intervertebral disc absorption, bead-like enlargements, joint mice and flatness of round bone heads may be seen. While eburnation is hard to see, cyst cavities are frequent, and later there is a bone atrophy which simulates atrophic arthritis on the film. Gastro-intestinal series show the colon

CHART I

This classification is neither "fish, fowl nor beast," in that it does not stick strictly to anatomy, pathology, or etiology. It does offer, however, convenient clinical sub divisions for fixing simply in the mind and discussing in this paper, a subject already excessively confused.

I. ACUTE ARTHRITIS

1. Acute Infectious Arthritis — Rheumatic Fever
2. Acute Septic Arthritis — Gonorrheal; Pneumococcus; Typhoidal, etc.
3. Acute Allergic Arthritis — Serum Sickness; Intermittent Hydrarthrosis
4. Acute Traumatic Arthritis

II. CHRONIC ARTHRITIS

1. Chronic Infectious Arthritis — Atrophic Arthritis; Still's Disease
2. Chronic Septic (Specific) Arthritis — Syphilis; Tuberculosis
3. Chronic Allergic (Metabolic) Arthritis — Gout; Menopausal
4. Chronic Traumatic (Degenerative) Arthritis — Hypertrophic Arthritis; Heberden's Nodes; Morbus Coxae Senilis; Spondylitis

CHART II

TYPE	ATROPHIC ARTHRITIS	HYPERTROPHIC ARTHRITIS
Definition	A migratory swelling and stiffness of the joints in the latter stages of which there is deformity and ankylosis.	A chronic arthritis in middle aged people characterized by degenerative and hypertrophic changes in bone and cartilage.
Susceptibility	*Heredity*: 1. Family tendency in 50% cases. 2. Found in ptotic, underweight, sickly. 3. Found in those leading extreme life. 4. Castro intestinal deformities seen. *Environments*: 1. Damp, humid climate aggravates.	1. Family tendency (but to less degree). 2. Stocky "well" type. 3. Extreme "liver" also. 4. Faulty G. I., circulation, posture, etc. 1. Worse in cold, wet climate.
Etiology and Incidence	*Predisposing*: 1. Vaso motor disturbance. 2. More in women. 3. Age 20 to 50. 4. Trauma. 5. Infections generally (tonsils, etc.) 6. Low general resistance. *Exciting*: (a) Hemolytic Streptococcus. (b) Viridans (May find these in joints, glands or blood stream). (c) Allergy—bacterial	1. Degeneration of tissue (menopause). 2. More in men. 3. Age 40 or over. 4. Trauma very important. 5. Systemic infections—fairly important. 6. High Carbohydrate and Vitamin—poor diet. 1. Injury and overuse. 2. Toxic factors (G. I. especially) 3. Endocrine (especially thyroid and ovary)
Physiology and Pathology	*Physiology*: 1. Ca. Metabolism upset locally. 2. Lowered peripheral blood flow. 3. Nitrogen balance normal. 4. Increased blood sugar. *Pathology*. 1. Periarticular inflammatory swelling. 2. Villous (synovial) proliferation and thickening. 3. Synovial fluid increased greatly. 4. Adhesions and fibrosis. 5. Cartilage slowly absorbed. 6. Atrophy bone and ankylosis.	1. Retained Calcium. 2. Diminished blood supply, esp. capillary. 3. Increased blood pressure. 4. Increased blood sugar. 1. Little periarticular change. 2. Synovial membrane little affected. 3. Synovial fluid normal. 4. Joint mice and spicules. 5. Cartilage split to form chondrosseus ridges. 6. Eburnation of bone and deformity. No ankylosis.
Symptoms and Signs	*Symptoms*. 1. Onset acute or gradual. 2. Symmetrical, two or more joints involved. 3. Pain, swelling and stiffness, esp. after rest. 4. Wasting of tissues, deformity, fixing of joint 5. Migrates. Fibrositis present. 6. Systemic features. Weak, nervous, tired, slight fever, depressed, anorexia, etc. *Signs*: 1. Spindle fingers and joints. 2. Joint doughy, resilient, tender, red (hot), or cyanotic (cold). 3. Nodules like Rheumatic Fever felt. 4. Thin glossy skin, pigmentation, Psoriasis. 5. Lymph nodes and spleen may be enlarged.	1. Onset insidious. 2. Not usually symmetrical; larger and fewer joints. 3. Pain on use, relief by heat and rest. 4. Disalignment of joint, esp. knee. Limited motion. 5. No migration. Easily fatigued. 6. Few if any generalized symptoms. 1. Knobby fingers. Heberden's Nodes. 2. Joint firm, irregular. Not very tender. Crunching on motion. Joint mice are felt. 3. No nodules. Poker spine. 4. Poor body mechanics, esp. diaphragm. 5. Flat chest, lordosis, poor posture and flat feet often present.

findings so well described by Pemberton, the ptotic bowel without haustral markings.

Laboratory aids are far less in number in hypertrophic arthritis. An increase in blood sugar and uric acid; a low basal metabolic rate and rather low gastric acidity are all one expects to be reported abnormally. Diagnosis has been mentioned elsewhere, and all that need be said further is to be on the lookout for osteitis deformans; remembering too that hypertrophic arthritis may be associated with Syringomyelia, Osteitis Fibrosis and Hypertrophic Arthritis, and may appear simultaneously in the same individual.

Prognosis is generally good, and here again, depends upon early and thorough treatment. It is surprising what may be accomplished in relieving stiffness and pain, even where irregularities, deformities and joint mice remain in rather old cases. Most older people are not so "sot" on looks as they are on comfort and getting about.

Adequate treatment of this group, in addition to other factors, already mentioned, includes rest (short time only); atrophy may appear even though no fear of ankylosis; improved blood circulation; a rejuvenated gastro-intestinal tract, securing an optimal weight (this usually means reduction), stimulation of glands, especially thyroid; removal of trauma and improvement of body mechanics. It is well to call attention just here to the fact that foci of infection elsewhere in the body should be removed with caution and as early as possible in the course of the disease. Joint surgery finds much less place in hypertrophic Arthritis and indeed some conditions even may be made worse, where operation acts as a stimulus to more bone overgrowth. Appliances, braces, belts, cor-

CHART III

Type	Atrophic Arthritis	Hypertrophic Arthritis
Clinical Course	1. May be mild with spontaneous recovery. 2. May be severe, progressive to ankylosis, deformity. 3. Functions all worse when deformity sets in. (Circ., Resp., G. I., etc.) This makes vicious circle. Improved general health may presage joint improvement.	1. Remissions, relapses, and exacerbations. 2. More joints mey become involved—stiffness, Limited motion, deformity—rare ankylosis. 3. More pain if spinal involvement and nerve impingement. 4. Process may be arrested at any stage if treated properly.
Roentgen Observation	*Early*: 1. Bone normal. Some soft tissue chauges. *Later*: 2. Epiphysis rarefied, joint space narrow and fuzzy. *Late*: 3. Shortening of bone and occasional cyst-like areas. *End Stage*: 4. Osteophytes, ankylosis (may simulate Hypertrophic Arthritis).	1. Hand and knee show deformity early. Deep joints later. 2. Narrow joint space. Deformation ends of bones. Intervertebral discs thin. Round heads of bones are flat. 3. Bead enlargement of processes coalesce. Joint Mice seen. Cyst cavities frequeut, ankylosis present only in spine. Eburnation hard to see in X-ray. 4. Atrophy may be seen. (Simulates Atrophic Arthritis).
Laboratory Aids	1. Anemia (mild) 60-70% cases. 2. Leucocytosis (mild) Many young polys. 3. High agglutinins for streptococcus hemolytic. 4. Sedimentation rate increased. 5. Blood sugar, glucose tolerance increased. 6. Blood and joint cultures positive, hemo. strep. 50-75% cases. 7. Basal metabolic rate normal to slightly low. 8. Achlorhydria. Digestion food poor throughout. 9. Urine normal. 10. Mucus, undigested food often seen in stools.	1. Anemia not common. 2. White cells normal. 3. No agglutinins. 4. Sedimentation rate not increased. 5. Blood sugar and uric acid increased. 6. Blood and joint cultures negative. 7. Basal rate almost always low. 8. Acidity normal or low. Poorly digested food seen in stomach, stool. 9. Urine normal or shows mild nephritic changes 10. X-ray G. I. shows ptosis, no haustration.
Diagnosis	1. From hypertrophic arthritis (See Chart V.) 2. Rheumatic Fever: Age, high fever, sweating. Electrocardiogram, heart findings relieved by salicylates. 3. Gout: Blood uric acid increased, tophi seen Jt. big toe affected, X-ray findings: joints normal between attacks. Rare in women. Associated with nephritis and kidney stones. 4. Lues: Painless single joint. Wass. Lightening pains. 5. T. B.: X-ray, lung findings, one joint. 6. G. C.: History, joint and blood culture, agglutinate.	1. From atrophic arthritis (see Chart V.) 2. Osteitis Deformans. Skull thick, shrunken stature, bowed legs, etc. 3. Gout: (see atrophic arthritis). 4. Lues: (see atrophic arthritis). 5. T. B. (see atrophic arthritis). 6. May be associated with: (a) Syringomyelia (b) Osteitis Fibrosa (c) Brodies abscess.
Prognosis	1. Better than generally thought, 70% or more helped. 2. Depends on promptness and thoroughness of treatment. 3. Type, temperament or individual, heredity important. 4. Women (especially spinsters) do worse than men. 5. If weight bearing joints affected, prognosis worse. 6. State of general health affects prognosis.	1. Generally good. 2. Earlier seen and properly treated better the result. 3. Stiffness and pain may be relieved, though deformities remain. 4. Reduce weight, provide rest, improve G. I., proper climate, prognosis better.

sets and supports for ankle, knee, etc., play a large part in restoring these miserable folk to comfort. Heat, massage, and exercise must be applied cautiously. Here again, intravenous vaccines may relieve mightily, even though deformity persists.

Histamine, applied by cataphoresis, inunction or scratch method and "Mecholyl Iontophoresis," is now being tried in this country after its introduction and approval in Europe. Apparently its chief benefit in Arthritis results from improvement in peripheral circulation. It seems especially valuable in osteoarthritis of the small joints, as in Heberden's nodes.

Summary

Arthritis is truly an important humanitarian and economic "cause." It richly merits the campaigning and crusading given to other conditions, such as tuberculosis, cancer, diphtheria, cardio-vascular diseases, et cetera. Let me cite a few reasons for past neglect: It rarely, if ever kills immediately; its millions live on in a more or less crippled condition, gracing public places, invalid chairs or beds, and somewhat disgracing our profession. So much attention is given these days to extending life, and comparatively little to seeing that this prolonged life is worth living.

CHART IV

Type	Atrophic Arthritis	Hypertrophic Arthritis
Treatment Individual As A Whole	1. Mental and physical rest. Must not rest joints too long because of ankylosis. 2. Improve G. I. tract. Raise foot bed, reduce diet as whole, especially carbohydrates. 3. Improve body mechanics. Deep breathing. 4. Massage all over. Light at first and gradually increase, but never over joint itself. 5. Passive motion followed by active when splints removed.	1. Build general health. Rest must be more prolonged on weight bearing joints. 2. Improve gastro-intestinal tract. 3. Improve body mechanics (flat feet, "pot belly," stooped shoulders, back curvatures, especially diaphragmatic pump.) 4. Improve nerve strain, fatigue, and depression. 5. Improve myocardial tone, and peripheral circulation.
Removal Predisposing And Exciting Causes	1. Remove foci of infection early and "piece meal." 2. Relieve anemia, building general health. 3. Relieve trauma, fatigue. 4. Remove to hot dry climate. Sanitoria for severe cases.	1. Remove trauma. Change job. Better body mechanics. 2. Improve G. I. Slow up or speed up. Remove stasis with exercise, massage, luhrication, and irrigations; Vitamins and minerals. 3. Stimulate glands. Thyroid, parathyroid, and ovary. 4. Remove foci cautiously after reducing toxemia. 5. Strive for optimal weight. Hydro and thermo therapy.
Diet	1. Optimal. Low carbohydrates, high vitamins A, B, D. (Yeast, B capsules, cod liver oil, etc.) 2. Relieve food allergy where possible. Diet should contain 25 to 30 cal. per kilo. Fats best consist of butter, cream, olive oil.	1. Optimal. Low carbohydrate, low protein in some cases. High vitamin and mineral. 2. Diet should contain fresh fruits and veg. 1 gram protein per kilo. 1-3 total carbohydrate.
Drugs Vaccines Et cetera	1. Relief pain: Cal Acetyl, Oxoate B., Cincophen. 2. Tonics: Iron, arsenic, transfusion, Calcium. 3. Alteratives: Iodine. 4. Glands: Thyroid. 5. Shock therapy: Foreign proteins, bacteria, etc. 6. Vaccines: (a) Specific or subcutaneous questionable. (b) Intravenous—I. Clawson—Weatherby Strep H. & V. Dose 100 to 800 million. II. Wyatt-Hicks. Strep. Coburn L. type. Dose 100 to 1000 million. (Avoid reactions by slow prone administration, rests thereafter, light diet and salicylates). 7. Sulphur therapy. 8. Hyperpyrexia.	1. No specifics. Same group as Atrophic Arthritis 2. Same. 3. Same. 4. Glands: Thyroid and ovarian. 5. Less value than in atrophic arthritis. 6. Less value though stiffness and pain may be benefitted, especially by intravenous use. 7. Phospho Soda and Soricin. Acidophilus for G. I. 8. Histamine therapy. Cataphoresis, scratch and inunction. Mecholyl by Ionophoresis.
Local Treatment	1. Exercise without weight bearing. 2. Heat or cold (Baking, diathermy, infra red.) 3. Massage—above and below joint. 4. Fix in light well padded splint short time. 5. Occasional aspiration if tense with fluid.	1. Exercise—cautiously. 2. Heat. 3. Massage. 4. Fixation limited—no ankylosis but atrophy of disease seen. 5. Body mechanics—corrective postures—especially for spine.
Prevention and Treatment of Deformity	1. Fix in favorable position if ankylosis likely (straight knee and hip, flexed elbow and arm mid pronation, shoulder abducted, spine extended.) 2. Surgery: Synovectomies Arthoplasties Arthrodesis Tenotomies Musce advancements, etc.	1. Deformity due to changes in bone ends (only in late cases is deformity of A. A. seen). 2. Surgery of less value than in A. A. (may possibly make worse with surgery by stimulating bone overgrowth further.) Remove joint mice. Arthroplasties, arthrodesis in Morb. Coxæ Senil. 3. Appliances: Braces, belts, corsets, supports for ankle, knee, etc., play a large part.

Again, Arthritis is only mildly contagious, so that public health authorities find themselves little concerned with it. Last and most important, Arthritis is an involved disease and treatment is not simple. Too long, patient and physician have been looking for a "specific" easy-to-administer, and producing magical effect.

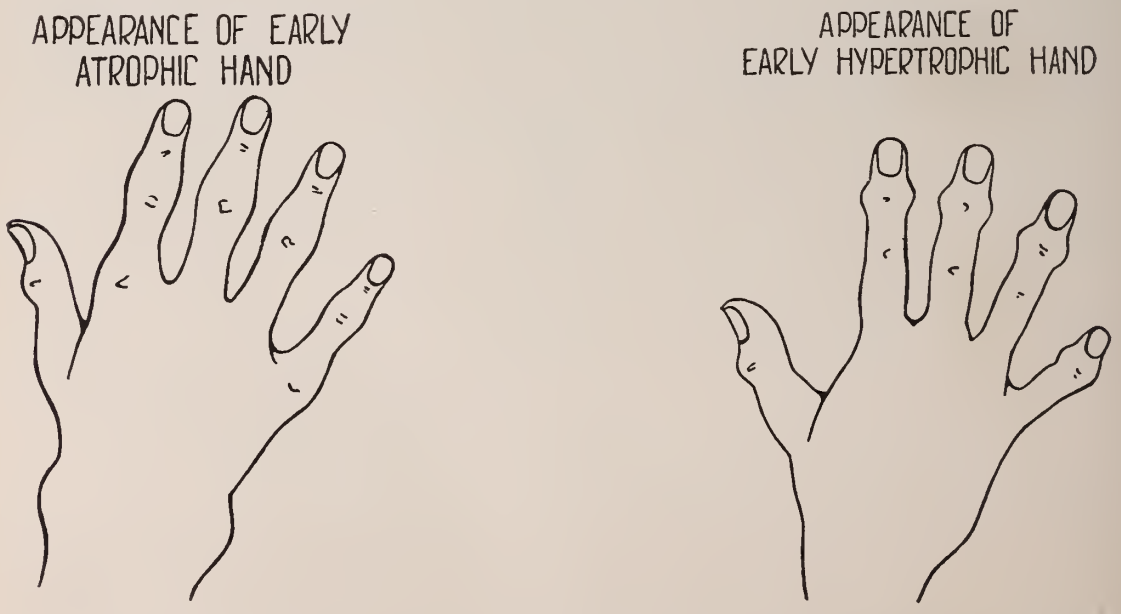
While such an Utopia is not yet just around the corner, I trust that what I have been able to present indicates progress to you. The whole subject shows at present "growing pains," from which should emerge, with the combined help of all, a well-understood and controllable condition. Arthroplasties performed by each one of us on ankylosed cerebral genus will soon transform an atrophic state of knowledge into one of hypertrophy.

May I, in closing, quote from that admirable pamphlet "Primer on Rheumatism" from which I have drawn so freely in the preparation of this paper: "The grotesque deformities that have been allowed to arise in the past, mostly constitute monuments to the well-intentioned ignorance of the medical profession or the failure of patients to follow directions. The time is not far distant when most cases of advanced Arthritis will be recognized as examples of inadequate therapy, or worse."

CHART V

Type	Atrophic Arthritis	Hypertrophic Arthritis
Diagnosis	1. Mostly in women. 2. Age 20 to 50 3. Ptotic undernourished people 4. Spindle fingers and joints 5. Migratory and symmetrical 6. Infectious 7. Periarticular involvement extensive 8. Bone rarefied 9. Tends to ankylosis 10. Rheumatic nodules present 11. X-ray evidence slight 12. Laboratory findings important (a) Anemia (b) Slight leucocytosis (c) High agglutinins—Hemo. Strep. (d) Sedimentation rate up (e) Achlorhydria (f) Blood and joint cultures often positive.	1. Mostly in men 2. Age 40 or over 3. Overweight well individuals 4. Heberden's nodes and deformed joints 5 Less generalized and larger joints 6. Toxic and traumatic 7. Periarticular involvement—little or none 8. Bone eburnated 9. Does not tend to ankylose 10. No nodules present 11. X-ray evidence definite 12. Laboratory findings inconsequential (a) No anemia (b) No leucocytosis (c) No agglutinins (d) Sedimentation rate normal (e) Acid may be normal in stomach (f) No positive cultures

CHART VI



Spindle Fingers and Heberden's Nodes. Seen early and almost pathognomonic in Atrophic and Hypertrophic Arthritis.

(Sketches from Exhibit on Rheumatism—A. M. A.)

DISCUSSION

David Jones, Louisville: In considering body mechanics in arthritis I think we must consider it from just two angles, first of all for the relief of joint strain and secondly its effect upon physiology. Joint strain, of course, is one of the big factors in arthritis, not only in the acute stage but in the chronic stage. Let us consider a case briefly, in the acute stage. The patient comes to us with markedly pronated feet and we see immediately, if the disease is acute, that the ankles are in the acute stage, hot, swollen, painful joints. Along with that is usually associated an acute knee. The knee joint is affected just in relation to the pronation and the strain consequently thrown upon it. As we go farther up, we cannot imagine a patient with markedly pronated feet and strained knees that does not also have a sway-back and the round shoulders that are so frequently seen. Usually this is accompanied by pain in the back, either a chronic joint strain or an involvement of the arthritic process. It is only by relieving this strain that we can hope to get the patient through the acute stage. Of course these joints must be put at complete rest for a time to overcome the acute stage quickly and adequately; following that, to prevent the deformities that come from the chronic stage, these joints must be used in the proper alignment. It is only by adequate splints, corrective exercises, and then teaching the patient how to use the body correctly when he is once again up and about that we can avoid the deformities and the pain that come in the chronic stage.

Let us look at the physiology for a moment. Pemberton forcibly states that atonicity of the bowel is a factor in arthritis. He mentions low carbohydrate diet, the necessity of a lot of vitamin B, but he also goes further and states that exercises are essential to restore the tonicity of the bowel. While the diet and the vitamin are equally important, I think we must consider exercise for the abdominal muscles, getting the intra-abdominal tension back again before the tonicity of the bowel can really be reestablished.

Another important factor is the function of the diaphragm. We see the low chest, the round shoulders, the prominent abdomen almost routinely in arthritis. These things all play a definite part in arthritis and it is only through the proper attention to body mechanics that these things can be corrected and the patient receive adequate benefit from his treatment. I regret that time prevents my discussing each of these factors separately and in detail.

Asa W. Nickell, Louisville: I want to impress on the association the vast significance and the importance of rheumatism. This time will not be spent in vain. We will take Goldthwaite's classification of the nomenclature and divide arthritis into the atrophic and the hypertrophic types. When we get back to our work and look at it in a big way, we will begin to make better diagnoses, we will do better general blood chemistry and general work, we will look into the various places where we can find a focus or foci of infection, we will understand the importance of **Rest** better than we have ever understood it, we will understand our dietary better, and we will go along with the lines of therapy best indicated and not give salicylates exclusively because the more patients come to me who have been long on salicylates the more I think the physicians who have been attending them do not understand fully the pathology that they have.

This disease, as has been stated, is a disease of remotest antiquity. It is a disease for which remedies have been exploited all over the world. In Germany alone there are 6,000 remedies for the control of rheumatism. In this country the drug stores are putting out 500 remedies. When we are doing these things we know that we are floundering around and do not know anything definite in regard to it.

The British Red Cross Society, in looking over their statistical data, found that it was costing them $100,000,000 a year to pay people who were ill of rheumatism and its sequelae. One-sixth of the money paid out there for industrial ills is paid for rheumatism. In the State of Massachusetts the health department has found that there is one case in every thirty that has rheumatism. We have only awakened to this condition in the last four, five or six years, and we have twenty-four countries in the world that have united in an international association for the control, study and prevention of rheumatism. It was only in 1928 as I recall that we established an American Committee for the Control of Rheumatism. and Dr. Ralph Pemberton of the University of Pennsylvania happens to be the Chairman of this Committee.

Dr. McCarty would have us think that if we can lasso the hemolytic streptococcus we are getting somewhere. That is not in conformity with the recent report that was enunciated at Cleveland in June by Dr. Pemberton and Dr. Key. They say that this is one of the greatest social and industrial diseases in existence, that they have isolated nothing in the way of a microorganism or dietary deficiency or metabolic disturbance or imbalance to which they can attribute the sole etiology of rheumatism, but that one or the other of these things, or perhaps some of them together, may be an important factor in the underlying causes of rheumatism itself.

In various conditions the foci are composed largely of streptococci and several staphylo-

cocci, and sometimes you will have rheumatism in the presence of these foci of silent infection when the foci do not give frank symptoms at all, but they will cause just as bad a case of rheumatism as if there were frank symptoms from them.

Key told us at Cleveland and in the literature that he can produce experimental rheumatism with staphylococci. I would like to pay my respects further to the foci of infection and the removing of them, but after the teeth have been extracted, the gall-bladder extirpated, the appendix cut off and the nasopharyngeal pathology cleaned up we still have rheumatism, even perhaps when the kidney function and the blood urea nitrogen are normal. The carbon dioxide combining power of the blood and the blood P. H. is normal and no acidosis is present and the calcium content of the blood within normal limits we still have trouble, therefore, we have plenty of territory for research.

There are a number of things along the lines of physical therapy, drugs, diet, vaccines, etc., but time does not permit but just one word about vaccines which have an undoubted place in the modern therapy of arthritis. Many strong claims have been made for their efficacy, but the question of specificity in bacteriology is entering upon new phases which necessitate critical review of much earlier work.

Certain reactions of agglutination and the like are now known to be referable to chemical substances of relatively simple nature common to many organisms. Again the work of Tillett has shown that many agglutination reactions are a function not of specific antibodies alone but of other components of the blood secondary to infections of diverse etiology.

W. Barnett Owen, Louisville: Arthritis is a problem of particular interest to the internist and orthopedic surgeon. It is more prevalent than any other disease. There are probably more causative factors to be considered than in any other disease. This, of course, necessitates a more complete investigation to locate and eliminate the one or more causes, which in many cases is unsuccessful. However, a very large percentage of acute and chronic, atrophic or hypertrophic arthritis can be benefited to a greater or less degree. There is no occasion for one being thrown in the discard simply because of arthritis.

At the last meeting of the Southern Medical Association in Richmond, Virginia, Dr. Porter reported a series of thirty-five cases of gonorrheal arthritis of knees, thirty-two treated by aspiration of all fluid from the knee joint possible, and through the same needle 75 to 100 c c. of air was injected. It is necessary to repeat this procedure every four or five days, from two to six times. In all of the thirty-two cases joint mobility without pain ensued; three cases had fixation dressing applied and resulted in fibrous or bony ankylosis.

We have employed the same procedure of aspiration and injection of air into three acute gonorrheal knees, with good results.

The employment of surgical procedures, such as synovectomy, arthoplasty, and fusion, in properly selected cases, is productive of much benefit. Rest, support, prevention of deformity, heat, massage, passive and active motion short of pain, are applicable to most cases. Ankylosis of tuberculous arthritis is productive of an arrest of the disease in the shortest time, with the least degree of destruction. General constitutional treatment in all cases is of vital importance.

Orville R. Miller, Louisville: I think we have all gathered from the paper and the discussion thus far that an arthritic patient, especially one suffering from a chronic arthritis, must really be treated as a whole or considered as a whole. We have just been told that not only may foci of infection cause this trouble, but also upsets in metabolism, upsets in the endocrine system, deformities of the gastrointestinal tract, and various other things may give rise to it.

We have all been quoting Pemberton, and he states that the foci of infection may not be the cause of the chronic arthritis, but the chronic arthritis may give rise to a focus of infection, so there is not any one thing that may be considered as being the cause of arthritis, but these things may come coincidently, and so we must not treat the patient from one particular angle but must consider him as a whole.

Everybody knows it is quite a difficult thing to treat a chronic arthritic because great numbers of them have been treated for a long time, have become dissatisfied, have gone to some other doctor, and finally they came to your office and you found it an extremely difficult thing to handle the patient just because of the fact that he has been dissatisfied with the treatment that he has already had. It takes a person with a rather dominant or strong character, I think, who can dominate the patient's psychic field in order to keep that patient under the regime that he should be put under in order that he may get his best results.

As has been told you, even in the most severe cases, remarkable results can be obtained if the patient can be kept under exactly the regime under which he should be placed and not allowed to use his own ideas about the thing. It is a rather difficult thing in the case of a banker or a man who is at the head of a large business concern, who is used to dominating the field himself.

To summarize the treatment of arthritis, we have a few things to bear in mind, and

among them is, to correct deformities which are already present. Whatever postural deformity the patient may have should be corrected. If it is easily corrected by exercises, application of braces, do so; improve the posture and improve the muscle tone; in other words, correct the body mechanics. At the same time that this is being done the capillary circulation should be improved by the use of such measures as massage, aspirin and exercises. Various other forms of physiotherapy are found to be extremely useful in dilating the terminal capillaries, in this way improving metabolism generally and at the same time improving the nourishment to the parts that are involved in the arthritic change. Tonics should be administered, such as iron, quinine, strychnin and such alteratives as arsenic and the iodides. Arsenic has proved especially valuable in this type of case but the experience of various authorities seems to indicate that the cacadylate of soda is better tolerated and can be given over a longer period of time than some of the other forms of arsenic. The salicylates, especially aspirin, is tolerated splendidly by most arthritics and it has a splendid effect in relieving pain and this supposedly is due to, not only its effect on the central nervous system but that it also has a tendency to dilate the terminal capillaries.

One should not neglect to afford complete rest to these patients so as to avoid all sorts of physical and mental fatigue, since practically all of these patients notice that their condition is aggravated by fatigue of any sort.

Surgery may be instituted for the relief of ankylosed joints if deformity is present and of such severity as to be distinctly of disadvantage to the patient. In the early treatment of the disease, if an ankylosis is expected to occur, the part should be held immobilized in a position which will prove most useful to the patient when motion has been finally completely lost. Under ordinary conditions, immobilization should not be allowed to remain over a long period of time but it is always indicated in acute exacerbations and should be prolonged until the acute pain and swelling, heat and all other local evidence of reaction has subsided.

A. C. McCarty (In closing): I certainly did not want to inject any controversy into this thing because I wanted it to be simple and I wanted to get some things in your minds that would be practical to leave with you.

I feel very thoroughly that Dr. Pemberton is a fine man; he is of my own school, and I can do nothing better than recommend his recent book with Dr. Osgood on the subject of arthritis. As he very rightly states, the improvement of the streptococcic condition will not lift the ptotic colon, will not put vitamin B in the diet, will not increase metabolism, it will not put acid in the stomach, it won't give your patient any rest, but if you do these other things there is certainly no harm, it seems to me, in trying to take care of these streptococcic infections by the removal of foci, and if you use vaccines use them intravenously and in large amounts. I think whether streptococci can be recovered in the joints is not so important. I think it is important to realize that treating the infection is important, but in keeping with the many measures which have been mentioned here this afternoon over and over again.

SURVEY OF OBSTETRICAL WORK IN LOUISVILLE HOSPITALS DURING 1933*

W. T. McConnell, M. D.

Louisville

The report I am submitting to you is a statistical study of a summary of obstetrical work done in the hospitals of Louisville for the year 1933. This work was undertaken by the Louisville Gynecological and Obstetrical Society in the latter part of 1932. The work of this organization was sponsored by the Joint Hospital Committee of Louisville. Certain members of the Obstetrical and Gynecological Society were appointed as a committee to secure this information, each member of the committee being responsible for gathering the data for one certain hospital. A set of blanks were drawn up; the first one being a summary of the work in each hospital, to be filled in by that hospital month by month. The second set of blanks was furnished the hospital to report individual cases of cesarean section. The third set was for maternal deaths, and the fourth set for infant deaths. Each case was reported on these blanks in full. The information was secured from the charts and from the doctor in charge of the case, and covers everything we could learn about each individual case. The name of the doctor and the patient were withheld from these records.

The report I am submitting, herewith, is a study of the blanks including the summary of obstetrical work, but does not include clinical studies obtained from the case reports of cesarean sections, maternal and fetal deaths. Space and time would not permit such a lengthy discussion.

I have divided this study into three tables. In Table No. 1, it will be seen there were 5262 deliveries in the city of Louis-

*Read before the Jefferson County Medical Society.

ville for that year;3092 of these deliveries, or 58.75 per cent were hospital deliveries, and 2170, or 41.25 per cent were home deliveries. It is interesting to know that about ten years ago the percentage of hospital deliveries was only 18. Total City Hospital deliveries, not including home deliveries, were 1417 or 45.80 per cent of all the hospital deliveries. When it is realized that there were during this year a great number of charity cases in the private hospitals it will be seen that at least one-half of the deliveries in the hospitals were charity cases.

As to maternal deaths, there were 5 in the City Hospital, 6 in the private hospitals. All total, 11 in all hospitals. The maternal death rate was 0.35 per cent, or 35 per 10,000 live births. The only statistics that I have been able to get for the U. S. as a whole, are those reported by Dr. Elizabeth C. Tandy. In her study of our maternal death rate compared with that of other countries, she gives the rate for 1927 as being 64.7 maternal deaths per 10,000 live births as the official rate for the U. S. as a whole or almost twice as much as our maternal death rate in Louisville Hospitals.

In the Catholic Hospitals there were 902 deliveries and 773 in all other private hospitals.

As to total operative deliveries including forceps, versions and cesarean sections there were 706, or 24 per cent of the total deliveries, as compared with 2349 spontaneous deliveries or 76 per cent. In the City Hospital 83 per cent of the deliveries were spontaneous and in the private hospitals 70 per cent. It must be remembered that a great number of these forceps are of the low, or prophylactic type, which are being used more and more in primiparous cases. Also, a certain percentage were demonstrations of forceps or versions used for teaching purposes in the City Hospital clinic. It will be seen that in the City Hospital deliveries where the work is altogether under the supervision of trained obstetricians the percentage is much lower than in the private hospitals where many babies are delivered by family doctors. For instance there were 177 or 12.48 per cent forcep deliveries in the City Hospital and 386 or 29.20 per cent in the private hospitals. The percentage of podalic versions was 1.41 per cent in the City Hospital and 3.28 per cent in the private hospitals. As to the cesarean sections there were 21 in the City Hospital or 1.48 per cent, in the private hospitals 48 or 2.80 per cent showing that the percentage of cesarean sections was nearly twice as great as that done in the Louisville City Hospital.

TABLE I

		Per Cent
Total Deliveries for City of Louisville 1933	5262	
Total hospital deliveries	3092	58.75
Total home deliveries	2170	41.25
Total city hospital deliveries	1417	45.80
Total private hospital deliveries	1675	54.20
Total maternal deaths:		
City Hospital	5	0.35
Private hospitals	6	0.35
All hospitals	11	0.35
Total Catholic hospital deliveries	902	53.85
Total other hospital deliveries (private)	773	46.15
Total spontaneous deliveries City Hospital	1175	83.00
Others	1174	70.00
Total	2349	76.00
Total operative deliveries	706	24.00
Forceps:		
City Hospital	177	12.48
Private Hospitals	386	29.20
Total	563	18.21
Versions:		
City Hospital	20	1.41
Private Hospitals	55	3.28
Total	75	2.19
Cesarean Sections:		
City Hospital	21	1.48
Private Hospitals	47	2.80
Total	68	2.23
Percentage all Louisville births		1.29

Table No. 2 is a consideration of fetal deaths in hospital deliveries. These fetal deaths include all babies dying within the first two weeks of life or at term, dying in birth or before birth, all premature deaths as well as non-viable births, that is, those occurring between 4½ or 6½ months. It will be seen that in the City Hospital all these deaths taken together total 9.17 per cent of all births; in private hospitals, 5.00 per cent or a total for all hospitals of 7 per cent. It will also be noted that only 39.27 per cent of all these fetal deaths were at term or 2.78 of all babies delivered at term resulting in fetal deaths. Of all fetal deaths 30.5 per cent are non-viable, and 30.1 per cent premature viable. A few words of explanation we think is due in regard to the percentage of fetal deaths occurring in the City Hospital which at first glance would seem rather high. It must be remembered that the patients treated in this hospital include both colored and white, also the incidence of syphilis, mal-nutrition, chronic diseases and other

TABLE II
FETAL DEATHS

		Percentage of Total Deliveries
Total: City Hospital	134	9.17
Private Hospitals	85	5.00
	219	7.00
		Percentage of Total Fetal Deaths
At Term: City Hosp.	48	37.30
Private	38	44.70
	86	39.27
Antenatal: City Hosp.	41	30.5
Private	11	14.1
	52	23.7
Intranatal: City Hosp.	36	26.8
Private	41	47.0
	77	35.1
Neo-natal: City Hosp.	54	40.3
Private	29	34.1
	83	37.9
Total Permature Deaths:		
City Hospital	86	64.1
Private	47	55.3
	133	60.7
Viable Premature Deaths:		
City Hospital	46	34.3
Private	20	23.5
	66	30.1
Non-Viable Deaths:		
City Hospital	40	30.0
Private	27	31.8
	67	30.5
		Total Births
At Term: City Hosp.	48	3.38
Private	38	2.26
All Hospitals	86	2.78
All Viable Deaths:		
City Hospital	94	6.63
Private	58	3.57
	152	4.90

social factors are many times greater than in private hospital patients, so that this seemingly high percentage cannot be ascribed to an inferior grade of work done in the City Hospital. This fact is borne out by noting the percentage of intra-natal deaths as it will be seen that the percentage of these babies dying during delivery is almost twice as high in the private hospital as in the City Hospital.

In Table No. 3, there will be noted that of the fetal deaths 3.02 per cent were babies having abnormalities incompatible with life. Time will not permit a more complete analysis of fetal deaths.

One of the items studied in the summary of these hospital reports was the use of pituitrin in the first and second stages of labor. It will be noted that there was none of this drug used in the City Hospital cases until after the second stage, and 572 cases, or 34.15 per cent, in the private hospitals. When it is understood that a great number of the babies delivered in the private hospitals are patients of obstetricians who practically never use pituitrin in the first and second stages, it is apparent that the drug is used by the general practitioner in a large majority of all cases delivered. This comment is offered not as a criticism of the use of pituitrin, but simply to ascertain the extent of its use.

TABLE III

Abnormalities Incompatible With Life	
City Hospital	5
Private Hospitals	2
	7
Percentage of total fetal deaths, City H.	3.7
Percentage of total fetal deaths, Private	2.3
Percentage of total fetal deaths	3.2

Pituitrin in First and Second Stages		Per Cent
City Hospital	000	
Private Hospitals	572	34.15
All Hospitals		18.50
Morbidity Cases: City Hosp.	175	12.00
Private hospitals	84	5.00
Total	259	8.38

Comparative Percentage of Cesarean Sections in Various Hospitals.	
Louisville City Hospital	1.48
Private Hospital No. 1	6.66
Private Hospital No. 2	6.20
Private Hospital No. 3	2.86
Private Hospital No. 4	2.38
Private Hospital No. 5	2.17
Private Hospital No. 6	1.20
Private Hospital No. 7	0.72
Private Hospital No. 8	0.00

The figures of morbidity include all patients who ran fever as much as 100.4 degrees for any two consecutive days of their hospital stay, exclusive of their first and second days.

Another interesting finding was the comparative percentage of cesarean sections for the individual private hospitals. In pri-

vate hospitals No. 1 and 2, it will be seen the cesarean section rate was over 6 per cent. We feel that this percentage for these particular hospitals was probably much higher than it should have been. This conclusion is borne out by the fact that the cesarean percentage in hospital No. 1 for the year following (1934) markedly diminished when this hospital put into effect the rule that all cesarean section cases must have obstetrical consultation before the operation would be permitted. We feel that as prospective cesarean sections in all hospitals are given the benefit of obstetrical consultation the excessive number of these operations will markedly diminish. This has been borne out by the experience of other cities on this particular phase of the work as well as that of other hospitals in Louisville since this survey was made.

Comments and Summary

This survey was undertaken for several reasons. In the first place we have never had in Louisville any comprehensive set of statistics compiled on obstetrical work. We believe that such a compilation would be valuable for comparison when similar studies were made in future years. Furthermore, it was our hope that other cities would make similar surveys of work done for comparative study in various localities. We, also, hoped that by making such a study we could ascertain more definitely wherein our work was at fault, thereby, giving us a basis for definite improvement. We further feel that similar surveys of hospital work in other branches of medicine would give equally valuable information. The clinical studies available from the case reports of maternal deaths, fetal deaths, and cesarean sections have given us a very valuable amount of data for clinical study, and while most of this is not included in this report, yet we hope to be able to report much of it in the near future.

DISCUSSION

H. M. Rubel: This survey as carried out by Dr. McConnell, is one of the most important surveys that this Department has ever collected.

It shows you what type of obstetrics is being done throughout the entire city. It shows you the hospitals that are possibly over-indulging in operative procedures; it also shows you the conservative type of hospital; it also shows you last and above all, the conservative work that is being done in the City Hospital where the majority of cases are being delivered in the city. It shows you why family after family come back and have their babies in the City Hospital.

In going over the Cesarean sections, you notice some of the hospitals possibly are over-surgically inclined, and their surgical judgment possibly overcomes the true obstetrical procedures. In one hospital particularly where the rule has been instituted whereby they are required to have obstetrical consultation before a section is done, that hospital has reduced the number of sections almost in half. The number of cases in which pituitrin is used—after going over various charts on the outside, we find most everybody uses pituitrin in some dosage, whether 3 minim, or 2 minim, or 5 minim. Here at the Louisville City Hospital pituitrin is limited. If the attending physician, or the Resident, uses pituitrin, he may use it in 2 or 3 minim doses. I think we have curtailed many a fatality by the non-use of pituitrin. Another thing is the number of forceps: Although this is a teaching hospital, you will notice that there are 12.4 per cent forceps used in the City Hospital, whereas the number in the private hospitals is over 28 per cent. You can see the justification of that. Here in the City Hospital the patient is allowed more than ample time, whereas the men on the outside, who are busy and the chances are the fee they are going to receive is not in proportion to the energy spent on the case, will apply forceps a little earlier than we will at the City. Again the number of versions, you notice, as reported by Dr. McConnell is very small in the City Hospital, although every now and then we do a version for demonstration purposes for the students. On the outside versions are three or four times as many as at the City Hospital.

This study was started by Doctor R. Skeele of Cleveland, and I think much good is going to come of this. Doctor McConnell took it up here and after gathering statistics for a year finally whipped them into shape. He presented this survey at a meeting in Nashville and I think it will be taken up throughout all the cities in the South. In about five years at round table discussions, where statistics can be compiled, I think much good will accrue from sectional surveys, to see how our obstetrics may be improved. Maybe we are doing too many sections, maybe too many versions, maybe we are too liberal in the application of forceps. All these will be regulated in due time and I am sure nothing but good can accrue from surveys like this.

I think Dr. McConnell is to be congratulated and thanked for having given us this cross-section view of obstetrics as it is being carried out in our own City. I trust our sister cities in the South will carry out similar surveys so that only the best of obstetrical methods be employed, where and when borderline cases are encountered, and for the simple cases which, in many instances, try our obstetrical skill to the utmost.

PULSATING EXOPHTHALMOS IN INFANCY*

ADOLPH O. PFINGST, M. D.

Louisville

Pulsating exophthalmos is a condition characterized by proptosis, a visible palpable pulsation over the eyeball and the area of the anterior orbit aperture synchronous with the heart beat and the presence of a distinct bruit audible over the orbit and the neighboring bones of the skull. A protruding pulsating eye suggests at once the presence of an intracranial aneurysm. Such abnormal artero-venous communication has been known to occur for a century or more although the bibliography would indicate case reports of the kind were quite rare until after the latter part of the last century.

The first case of pulsating exophthalmos was reported in 1809 by Benjamin Travers, demonstrator of anatomy at Guy's Hospital. Travers, who made a scientific study of the condition, came to the conclusion that it was caused by cercoid aneurysm of the orbit and inaugurated the surgical treatment of ligating the common carotid artery for its cure. It was only eight years later that Guthrie demonstrated at autopsy the presence of an aneurysm of the ophthalmic artery in a case of pulsating exophthalmos, and following this aneurysm of the ophthalmic artery was for many years accepted as the cause of this symptomological triad.

About a century ago Baron discovered that many cases of pulsating exophthalmos had their cause within the cranium rather than in the orbit. He demonstrated at post mortem examination the frequent presence of an aneurysmal communication between the internal carotid artery and the cavernous sinus in these cases and believed that the association between the pathology of the blood vessels and the ocular symptoms was thus definitely established.

The real stimulus to the study of the subject was given by the classical work of Sir William Gunn in 1889. It was after this that case reports of pulsating exophthalmos grew with rapidity, especially in Germany and England. The latest survey of the literature of this condition, compiled in 1930 by G. E. Harkness, includes 621 cases. Statistically we find that the major portion of this number (75 per cent) represents cases whose etiology could be traced to intracranial traumatism, with coincident injury to the circulatory system. Laboratory study has demonstrated that most of the cases of spontaneous origin are associated with an abnormal communication between the internal carotid artery and the cavernous sinus. The cause of the spontaneous artero-venous anastomosis is as yet shrouded in uncertainty. While it is a fair assumption that a weakness or disease of the vessels precedes the actual interruption of the continuity of one or both vessels and the formation of the anastomosis, the nature of the underlying pathology and its primary cause has never been satisfactorily explained. In 1924 Wm. F. Reinhoff, Jr., published the result of an embryonic study of the subject in which he concluded that artero-venous fistulae occur, though not frequently, as a congenital condition. He described one type in which a multiple lateral anastomosis was formed between artery and vein by numerous small connecting vessels with no interruption of the continuity of either vessel, and another type, of much less frequent occurrence, in which a direct end to end anastomosis between the artery and the venous sinus develops as a result of an interruption of the continuity of one or both vessels. Either type may exist for quite a few years before an aneurysmal distention develops.

Upon the establishment of communication between the internal carotid and the cavernous sinus the arterial blood is pumped into the vein thus causing a reversal of current in the superior and inferior ophthalmic veins. As a consequence of this backward flow a marked congestion of all of the tissues normally drained by these veins supervenes and the orbital veins and at times the veins over the forehead become distended and tortuous. Exophthalmos of a marked degree results usually involving only one eye. It has been noted that the proptosis does not frequently take place directly forward but in a direction somewhat downward and outward. As arterial blood is circulating in the distended orbital veins the protosed eye pulsates synchronously with the heart beat. Sattler stressed the fact that pulsation in and around the orbit may develop long after onset of the other symptoms or that they may not develop at all. On auscultation a distinct blowing intermittent bruit can usually be heard over the orbit and for some distance over the adjacent bones of the skull. Pulsating exophthalmos is nearly always associated with considerable chemosis, especially of the upper lid. The patient usually suffers considerable pain in and around the orbit and complains severely of a most distressing symptom described as a hissing noise occuring synchronously with the beat of the heart. In most cases the exoph-

*Read before the Louisville Medico-Chirurgical Society.

thalmos recedes and the pulsation and the bruit as well as the subjective noises cease when pressure is made over the internal carotid artery, only to recur upon release of the pressure. Stooping and in fact any kind of physical exertion tend to exaggerate all symptoms.

Vision may remain normal throughout the course of the affection, though most cases are marked by visual disturbance. This may develop slowly as a result of pressure atrophy of the optic nerve, or it may come on abruptly the result of a serious intraocular lesion or direct injury to the optic nerve. Various conditions which have contributed to loss or depreciation of vision include optic nerve atrophy, corneal lesions such as neuro-paralytic keratitis, corneal ulcer which in turn may lead to panophthalmitis and iridocyclitis. Glaucoma, intraocular hemorrhage, embolism of the central artery of the retina, choked disc and phthisis bulbi have all been reported in connection with these cases. Even in the cases with minor involvement of the eyes the retinal veins are nearly always swollen and at times show pulsation. The arteries are usually thin.

Disturbance of ocular mobility is naturally a pronounced symptom in practically all cases of pulsating exophthalmos owing to the displacement of the eye and to the orbital swelling. Not infrequently ocular paralysis prevails, the result of injury or pressure on the oculo-motor nerves within the cranium, most frequently the third nerve and next the abducens.

Only about half of the cases of spontaneous pulsating exophthalmos are attributed to intracranial artero-venous aneurysm. The other half are divided about equally between simple aneurysms of the ophthalmic or the internal carotid artery and retrobulbar tumors, among which are included cercoid aneurysms. It is interesting to note that at the 1934 session of the A. M. A. Dr. T. L. Terry of Boston reported a case of unilateral pulsating exophthalmos for which he found the cause in an aneurysm of the internal carotid and internal jugular in the neck. Of the eleven cases of such aneurysms in the neck found in literature only two were associated with exophthalmos and Terry's case is apparently the only one associated with a pulsating exophthalmos. He accounts for the extension of the circulatory symptoms in irregularities of the sinuses of the skull. According to the latest bibliography compiled by G. P. Harkness in 1930, which included 621 cases, pulsating exophthalmos nearly always occurred as a unilateral affection though a few cases have been reported in which both eyes were involved. According to DeSchweinitz and Holloway this does not occur as a simultaneous development. The extension to the other side has been explained in the unusually wide communication of the cavernous sinuses of the two sides through the transverse and circular sinuses which sometimes exists in young individuals. This would explain the more frequent occurrence of the bilateral cases in youthful subjects.

The average age incidence of pulsating exophthalmos has been placed by DeSchweinitz and Holloway in the fifth decade average 42.7 years. It is exceptional for it to occur in patients less than twenty years of age. According to the bibliography of C. E. Locke of ten years ago in which the number of cases of pulsating exophthalmos was brought up to 588, only 15 cases occurred in patients under twenty. The oldest patient was 81 years old. Only once has it occurred in infancy. This was in a child sixteen months old, reported by de Bruin, in whom it occurred following whooping cough and in the absence of a history of a trauma. Von Zur Muhlen in discussing the development of pulsating exophthalmos in children refers to the observation of Hoffman, who attributes the predisposition of the basal vessels to aneurysmal formations, to the thinness of their walls and the under development of the muscular and elastic structures in children. As the literature reveals a plentitude of cases of pulsating exophthalmos the report of a single case would seem superfluous, however as special interest attaches to a case which recently came under my observation, on account of the extreme youth of the patient (20 months) a report in detail seems justifiable.

Report of Case

H. C., female, white. 20 months. Seen March 20, 1931. Chief complaint was pronounced swelling of the right eye with considerable pain and inflammation. The family history was negative, father and mother living and well and there was one twin sister living and well. The patient had always been less robust than her twin sister but never had been ill. During the night of March 17th about two o'clock in the morning the child awoke from sound sleep crying with pain in the right eye. The parents noted within an hour or two that this eye had become swollen and the swelling had increased somewhat within the past two days. Child's temperature had ranged around 101°, rectal, during this time.

Upon examination we found a fairly well developed child of normal size for its age. The right eye presented a marked proptosis with high degree of conjunctival chemo-

sis that the conjunctiva overhung the cornea throughout its circumference. There were a few ecchymotic spots in the conjunctiva, cornea was hazy, the aqueous cloudy, the iris murky, the pupil moderately dilated and inactive to light. Upon palpation over the eyelids a definite thrill could be felt and upon bringing the ear close to the patient's head a bruit could be heard which was synchronous with the heart beat. The diagnosis of spontaneous pulsating exophthalmos was made and the patient referred to Dr. Spurling who concurred in the diagnosis and sent the child to the hospital where he ligated the right common carotid artery. There was immediate cessation of bruit and pulsation and within three days the exophthalmos had almost completely disappeared. The child was discharged on the fourth day. At the time of the discharge the pupil was still moderately dilated and inactive, the cornea somewhat hazy and there was considerable blood in the anterior chamber. No fundus reflex could be seen. The patient was next seen on April 14th, at which time it was noted that the blood in the anterior chamber had been absorbed, the pupil was still dilated, inactive to light and the lens was becoming cloudy, intraocular tension at this time was noted to be considerably subnormal. On May 1st the eye was still softer and phthisis bulbi had begun. On June 2, 1931 the eye was remarkably shrunken and had become painful hence enucleation was advised but it was not until September that the parents consented and on September 3rd the eye was enucleated. During the operation it was noted that there was almost no bleeding whatsoever and absolutely none when the optic nerve was cut. The eye was sent to the Army Medical Museum for pathological study. The report indicates that the eye was lost as a result of a plastic iridocyclitis. The retina and the uveal tract of the phthisical eyeball were densely infiltrated with leucocytes. A plastic deposit was found between the choroid and retina and the inner surface of the retina was covered with exudate. The vitreous was also infiltrated with exudate, a portion of which had become partly organized.

In the presence of unilateral exophthalmos it often becomes a problem to determine its underlying pathology and quite a number of conditions may be associated with a forward displacement of the eye, such as orbital neoplasms, accesory nasal sinus disease pointing into the orbit, Graves disease, arterio venous aneurysm and simple aneurysm of the arteries or veins. Reviewing briefly the differential signs it may be noted that retrobulbar neoplasms come on more slowly than aneurysms and that they are usually associated with more protrusion but seldom with pulsation or a bruit. Nasal accesory sinus disease with extension into the orbit brings about a varying degree of proptosis usually with a lateral displacement of the eyeball and lessened mobility in the direction of the pathology. These cases are not associated with the pulsations or a bruit. X-ray will usually reveal the seat and nature of their pathology. Exophthalmos of toxic goiter, which in rare instances may be limited to one eye, can usually be recognized as such by the clinical signs and laboratory findings common to this disease. The exophthalmos in goitre usually develops slowly and pulsation and a bruit are exceptional. In cases of exophthalmos with a coincident palpable and often visible pulsation and a subjective and audible bruit the diagnosis of aneurysm should not be difficult. However in some cases one or the other symptoms of the characteristic clinical triology may not prevail or be so ill defined that the presence of an aneurysm may readily be overlooked. Just recently we saw a case of this kind with pronounced unilateral exophthalmos and marked chemosis in which pulsation could not be felt through the globe or the soft orbital structures and in which there was no subjective bruit. In this case the diagnosis could only be made after the stethoscope revealed a bruit over quite an area around the orbit. In the majority of cases of abnormal communication between the internal carotid and the cavernous sinus compression of the carotid in the neck will cause a disappearance of the pulsations and murmur and a recession of the proptosis and congestion. Exceptionally carotid pressure does not influence these symptoms or at least they are only modified to a slight degree.

Even after the presence of an aneurysm has been established the problem as to which vessels are involved and extent and location of the involvement remain to be solved. Recent developments in Roentgenography of the blood vessels promised much as a diagnostic aid in blood vessel disease. Based upon the pioneer work of Paul Radt in 1929, who by means of intravenous injections of thorium dioxide solution visualized the spleen and liver, Allen and Camp employed the drug to visualize the arteries of the extremities. They employed only 25 c. c. of a less toxic solution than that employed by Radt. Moniz in 1933, was the first to employ the method to demonstrate the intracranial vessels.

Various measures have been suggested in the treatment of carotid cavernous aneurysm, all tending to prevent arterial flow into the venous system, such as compression of the artery in the neck by means of a pad, the subcutaneous injection of gelatin and rest to promote clot formation in the arteries and veins and ligation of the internal or common carotid arteries. The surgical treatment is at present the one of choice as it offers a high percentage of cure with a minimum of risk to life.

DISCUSSION

M. C. Baker: That this is a rather unusual condition is demonstrated by the fact that, in more than thirty years of practice, Dr. Pfingst has seen only three or four cases. In my own practice of about nineteen years, including fifteen years of City Hospital work, this is the only case of pulsating exophthalmos I have ever seen.

This man, who was between thirty and forty years old and rather plethoric, did not exhibit any of the subjective symptoms mentioned by Dr. Pfingst. He suffered no pain throughout, there was no pulsation over the eye and nothing that could be seen or felt. He did not complain greatly of decreased vision, although when he came to me on June 22nd, 1934, four or five days after his eye-ball began to swell, his vision was 20-50. I treated him for two or three days without being able to diagnose his trouble, and then had an X-ray made which showed nothing other than a slight haziness of the anterior and posterior ethmoids on the side of the affected eye. Dr. Pfingst suggested the possibility of thyroid origin, so we had a metabolism test made and it was plus 8, which ruled that out. The eye continued to swell and the trouble began to take on a serious aspect. The eye-ball was absolutely fixed; he was unable to move it in any direction. The eye pointed downward and outward and there was extreme chemosis. The cornea was clear and the pupil only moderately dilated. He still had some pupillary reflex. Eye-grounds negative except for a little pallor of the disc.

On the 27th day after I first saw him I lavaged the left antrum but found no pus. He entered the hospital two weeks later and an exploratory operation was done. A regular frontal sinus incision was made exposing the floor of the frontal sinus, which was negative, but there was communication into the ethmoid region. I put in a drain and put him back to bed. Several days elapsed with no change in his condition, so I had Dr. Spurling see him. He applied a stethoscope and detected a bruit over the temple, as described by Dr. Pfingst. He began to improve as soon as his common carotid artery was ligated, and about three weeks ago, when his eye had receded sufficiently, I went in and took out an oval-shaped piece of conjunctiva, and underlying tissue and stitched it up.

Now his eye has completely receded and although there is a little scar tissue holding the lid out, it does not amount to much. His vision on October 31st was 20-20-minus 3 and all the extrinsic muscles had returned to normal except the external rectus.

I think this is a marvelous result and I wish to thank Dr. Pfingst for seeing the patient and Dr. Spurling for bringing it to such a successful conclusion.

Jesse H. Simpson: Needless to say I have enjoyed this very interesting paper. The phase of the subject that interests me is the differential diagnosis, especially in young children, between accessory sinus involvement and pulsating exophthalmos. However, in empyema of the ethmoids I do not believe there would be as much ecchymosis of the conjunctiva as we see in aneurysm; also empyema would present a febrile condition and the characteristic bruit of pulsating exophthalmos would not be present.

John Walker Moore: I would like to ask if, before tying off the carotid in these cases it is the practice to lead up to it by preliminary exercises. I have heard of some very unhappy experiences from tying off the carotid without such preliminary exercises.

R. Glenn Spurling: It has been my perhaps unusual experience to have seen half a dozen cases of pulsating exophthalmos in the past six or eight years. Dr. Moore's question really brings out the whole point of my discussion. One does not dare attempt to tie off the common carotid or external carotid arteries without having first made certain that there is collateral circulation sufficient to nourish the brain tissues in the areas supplied by those arteries. Perhaps twenty-five per cent of all individuals will develop hemiplegia following such ligation unless collateral circulation has first been established by passive exercises.

The routine procedure is to start these preliminary exercises by digitally compressing the common carotid artery in the neck. When this compression can be maintained for fifteen minutes or longer without producing hemiplegia, one can feel fairly safe in ligating the artery. However, we go farther than that and at the time of operation, when the field is opened, the artery is first compressed between the fingers, under direct vision so that one can be sure the artery is completely occluded. This is done under local anesthesia so the patient can tell you of any subjective symptoms. If compression of the artery for 15

minutes does not produce paralysis or fainting, one can proceed with the ligation with comparative safety.

In the cases of our services, two developed hemiplegia very promptly upon digital compression of the common carotid artery. In both cases we resorted to a more or less prolonged period of gradually lengthening digital compressions before the collateral circulation reaches a stage where ligation may be safely attempted. We usually start out with compression for only a few seconds. The patient is taught how to make this compression himself and to use the hand opposite the side on which the compression is made, because the first sign of weakness will result in automatically releasing the artery. Paralysis usually comes on more quickly than unconsciousness. In the two cases mentioned, the patients were able to stand compression for only a few seconds without developing symptoms. After a few days they were able to compress the artery for five minutes without discomfort, and at the end of six or eight weeks they were able to keep the artery compressed for fifteen minutes or longer without developing any symptoms. Then I felt that the time had arrived for operative work.

Another check we have on the effectiveness of the closure is that when the artery is completely occluded the bruit stops. In the case mentioned by Dr. Pfingst, this man did not develop hemiplegia but did experience a feeling of faintness when the artery was compressed for three or four minutes in the beginning, and the bruit stopped almost completely during the period of compression. Preliminary exercises were instituted and at the end of three weeks he was able to occlude the artery for fifteen to twenty minutes without discomfort, after which ligation was accomplished without difficulty.

Just a word concerning diagnosis. Most of these cases can only be definitely diagnosed by the aid of a stethoscope. Often, the pulsation in the eye cannot be felt even when we know it is there, but the stethoscope applied over the upper lid or anywhere around the temporal bone will detect the bruit which is the unmistakable diagnostic sign. I use a stethoscope routinely in every neurological examination, and it is remarkable how many instances of vascular disease of the brain and even meningeal fibroblastic tumors can be picked up by applying the stethoscope over the suspected area.

THE RELATION OF TRAUMA TO DISEASES OF THE NERVOUS SYSTEM*

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The object of this discussion of Trauma as a cause of nervous diseases is to review an old question from the standpoint of the present day knowledge. No reference will be made to the actual severe damage done by trauma as fracture, contusion, or hemorrhage. The object is to review the opinions of trauma as a factor in the degenerative diseases, or functional states which often follow accidents. It is a question that has aroused discussion and opinions, and even today after many clinical manifestations have been discarded as having no relation to trauma there are practically two schools, one favoring an organic basis for many of these traumatic conditions, and the other holding the opinion that most of them are functional or psychogenic.

In our older text books trauma was listed as a cause for many nervous diseases, but pathology has changed this, consequently few neurological conditions can be primarily attributed to injury. Possibly the medico-legal question has had much influence in keeping it a live topic.

Of all the articles published after study and investigation, two stand out prominently.

In 1866 Erickson, an English surgeon, brought forward concussion of the spine, the so-called railway spine, and first used the term molecular disorganization.

At this date the knowledge of nervous diseases was meager, and many diseased conditions of the brain and cord were attributed to trauma.

Erickson's opinion led to a great discussion and upset the information that had been gathered up to that date. In addition he precipitated many suits for damages.

In 1889 Oppenheim brought forward the term "traumatic neurosis" and thought there was an organic basis for these conditions. He excluded those regarded as purely hysteria or neurasthenic.

It is interesting to note that Rigler in 1679 noted an increase of invalidism following railway accidents after Prussia adopted their compensation law in 1871.

Oppenheim quotes Charcot as saying in 1879 that "up to three years ago we were not familiar with these clinical types following injury." This statement was made after England adopted their compensation law in 1880.

From these statements one would think that the question of trauma became more

*Read before the Jefferson County Medical Society.

prominent after the adoption of compensation law.

It is interesting to note that children and adults who are injured at play do not suffer as frequently as those employed or injured by the negligence of other individuals.

The brain is in a closed box or skull. Its supporting structures are the meninges, blood vessels and neuroglia. Cushions or water beds of cerebrospinal fluid help to support and protect.

In case of injury these structures are damaged, laceration, hemorrhage, edema, disturbance of circulation of the cerebro-spinal fluid, and as the cranial space is limited grave symptoms may arise. Injury may result in only concussion, or there may be only fright or shock.

In the severe cases resulting in death we know the pathology but in the minor cases we have comparatively little information. Much of this has been gained by animal experimentation, however, sufficient reports have been made to warrant the opinion that organic changes can take place from variable degrees or concussion.

I quote from the newer text books concerning the pathology. Hassin, speaking of changes from concussion says "Because of the disturbance of the vascular nerve supply (abnormal irritability of the nerve mechanism of the blood vessels) a state of prestasis obtains in which the flow of the blood slows down and becomes retarded. As the blood vessel walls no longer assist in the circulation of the blood, stasis together with the suspension of the exchange between the blood and the tissue fluids results. This leads to necrosis, the formation of numerous areas of softening and hemorrhage. This is the physiologic theory of concussion as advocated by Ricker in contrast to the anatomic theory of Obersteiner and others. According to the anatomic theory, the primary factor is not in the blood vessels but in the parenchyma itself. The injury affects the ganglion cells and the nerve fibers and, of course, also somewhat implicates other tissues, the glia, the blood vessels and meninges. Small areas of softening, (especially in the frontal and temporal lobes) petechial or larger hemorrhages, phenomena of stasis or edema, giving the tissues an areolar appearance (status spongiosus or edema) and perivascular hemorrhagic infiltrations were frequently demonstrated in human material."

Wechsler says "If the blow is not severe enough to cause a fracture or direct injury to the brain, general concussion (commotio cerebri) alone may result. This is generally regarded as a physiochemical molecular alteration which is not demonstrable microscopically. Perhaps there is some disturbance in the general circulation of the brain or the cerebrospinal fluid. There may, however, be anemia of the brain, numerous and minute hemorrhages, or even foci of softening. Occasionally there are subsequent microscopic alterations of the ganglion cells and fibers with swelling and degeneration."

Grinker says "Neuropathology has changed our conception of these cases. The traumatic neuroses have turned out to be the result of actual injuries to the brain. The nature of these changes are, of course, variable. The trauma itself is probably responsible for a large number of parenchymatous elements dying, the so-called molecular degeneration. If we examine a brain of an individual who has died shortly after a severe concussion, we find that, although the ganglion cells may be swollen and show chromatolysis of the Nissl substance, the main change is in the vascular system. The blood vessels are tremendously dilated. In fact, every capillary lumen is distended and filled with blood corpuscles. In such a state extravasations of red cells by diapedesis is naturally expected. The brain is edematous and filled with multiple petechial hemorrhages which, in a vital spot cause early death."

"In the light of Ricker's work the head injury has produced a sudden contraction of the arterioles with dilation and stasis of the capillary bed. Diapedesis of red cells and leucocytes have given rise to the term traumatic encephalitis." Osnato and Gilberti demonstrated that these changes were pronounced in the basal ganglia, in the regions where lethargic encephalitis also produces its most extensive lesions. It is easier to understand the vague headaches, dizziness and vertigo when we realize that the vascular system, particularly the vasomotor control, is damaged. The blood supply may be sufficient while at rest, but on exertion it is inadequate. Furthermore on change of posture, the absence of an elastic quality to the dilated cerebral vessels prevents compensations to changes in intracranial volume, hence the severe symptoms on stooping, bending, etc. However, the signs of brain damage do not remain stationary. Often they progress, so that a gradual deterioration of memory and mental ability are noted. Also progressive somatic deterioration may occur. Post-traumatic catalepsy or Parkinsonian rigidity may develop later. Very rarely a cerebral hemorrhage has appeared some weeks after cerebral trauma. These gradual and late appearing symptoms are possibly explained by a progressive effect of the ischemia

produced by the stasis. More and more degenerative changes will be noted in the parenchyma, the longer the vascular supply remains inadequate. It is a rather severe trauma that is at the basis of such prolonged vasomotor dysfunction."

Purves Stewart says "At the moment of impact, the cerebro-spinal fluid is suddenly forced from the peri-vascular lymph space into the peri ganglionic spaces, thus causing direct molecular changes in the nerve cells. The immediate phenomena of concussion are produced, not by any shaking up of the cranial contents, but by sudden cerebral anaemia. Meanwhile microscopic hemorrhages also occur in the brain. These are followed by cerebral edema of varying degree, changes constituting a traumatic encephalitis."

Many authors refer to small areas of softening and decay of nerve cells. Some lay stress upon changes taking place, especially in second layer of cells in the cortex. These changes are thought to take place regardless of the degree of unconsciousness, a symptom which was thought essential to suspect concussion.

The most frequent complaint following injury can be classed under the term "traumatic neuroses." The clinical manifestation is so predominantly subjective that they were classed as functional.

The symptoms of head wound syndrome which include that of concussion and neuroses has been described by many authors, namely, headache, vertigo, insomnia, irritability, anxiety, depression, memory defects, liability to fatigue, tinitis, partial deafness and loss of weight. It is interesting to compare these symptoms with those of early cerebral arteriosclerosis. It is suggestive that a vascular defect or instability is responsible in some way for their presence.

It is in these cases that new diagnostic procedures and knowledge of the possibilities of injury have caused many men to change their opinion. In 1922 there was a discussion of traumatic neurosis before the American Neurological Association. Dr. Cushing was the only one who thought these people were crippled, not able to work as they once did, and not wholly neurotic or compensation cases Today his opinion is being partly verified by a better diagnosis.

The most outstanding advancement which aids in diagnosis and interpretation are first, the information gained by a better understanding of the mechanics of the spinal fluid. Second: Ventricular and encephalogram. Third: Penfield's demonstration of vaso-motor fibers in the blood vessels of the brain. The information furnished by these have led many to change their viewpoint about the traumatic neuroses.

The encephalogram shows variations from the normal picture. It does not show the nature of the lesion, but shows larger spaces which were filled with fluid.

Whether this is due to an increased secretion or defect in absorption is debatable. In those instances where free blood occurred in the subarachnoid space doubtless it is a question of absorption. This is based upon the damage done to the pacchionian bodies and villi by the blood.

The value of the encephalogram is questioned by some good men, not that they do not appreciate its value, but that they do not as yet have a standard for normal or abnormal findings. When I see a portion of the cranial cavity filled with air and am told it shows brain atrophy or pressure atrophy it is hard to accept such statements when your patient shows no special mental or neurological deficiency. There is no doubt about what the encephalogram shows. but what does it mean. Does it mean an increase of cerebrospinal fluid or defect of absorption? Does it mean an ischemic condition of the cortex? Is it one of the results of the injury? Is it the cause of symptoms?

Drysdale (O. S. J.) says "During the past two years I have had under close observation two cases in which a diagnosis of post-traumatic neuroses was certainly justifiable. Both were victims of severe concussion without fracture of the skull. Subsequently these patients were subjected to encephalographic investigation which allegedly disclosed cortical brain atrophy. I accepted these findings, but to my utter surprise both individuals made a complete recovery within four months and resumed their usual occupations.

"In my judgment it is not possible for a degenerative process of this nature to abate in so short a time. We should therefore, hesitate to classify post-traumatic neuroses organic until cerebral pneumographic interpretation reaches a higher degree of efficiency. A diagnosis of this sort implies a dark prognosis which if not sound is eminently unjust to the patient and most unfair to the defendant."

Hall in a recent article says: "we do not wish to minimize the importance or value of this attempt. Unquestionably profit will eventually accrue from these new observations in a broader understanding of the pathologic physiology of head injury. There is, however, a grave danger of being swept off one's feet by over confidence in a mechanical method."

Friedman says "It is important also to remember that the encephalographic obser-

vations in cases of skull injury are not essentially different from those in degenerative disease of the brain, and in cases of so-called idiopathic epilepsy which have existed for some time and which are now believed to be of angiospastic origin. It is quite likely that the pathologic changes described by Cassasa, Martland, Hogega, Penfield, Wortis, Stevenson, and others, the mechanism suggested by Ricker (stasis, prestasis and local vaso-motor palsy) the vasopathies and meningopathies postulated by Foerster, and the ischemic necrobioses of Spielmeyer are concerned in the production of the changes in the brain that lead to the alterations of the encephalogram in cases of skull injury."

Clinical experience has demonstrated the value of encephalograms as indicating some abnormal condition, and it has proved of therapeutic value based upon the fact after the air inflation the patients have been relieved of many of their head symptoms. Such experiences would lead one to believe that the circulation of the cerebro-spinal fluid has some relation to the persistency of symptoms.

Considering the information obtained by encephalogram and the pathological findings even in milder concussion one is justified in agreeing with the changed opinion of traumatic neuroses, especially those arising from head injury. All cases cannot have the benefit of complete examinations and those following comparatively slight injury must be viewed with suspicion until observation and study have proven them otherwise.

Possibly one of the most difficult questions is interpreting the slight injury case that shows probable organic signs. I recall a man hit on the forehead with a hammer. He saw stars, was dazed, and after resting resumed his work, though he noted a dizziness. This man could not change his position without pronounced objective vertigo. The physical examination was frankly negative, and compensation was held up. I saw him several months later and succeeded in giving him relief. His improvement and behavior impressed me that his condition was the result of the blow. What happened in his cranial cavity I have no opinion to offer. If an encephalogram had been made possible it would have shown some abnormality.

I recall another case, a fireman who struck the back of his head against a brick wall. No special symptoms followed, except he just did not feel right about his head. This feeling persisted and two to four weeks later he had an apoplexy. Post mortem showed hemorrhage into the ventricle. This is the picture of delayed apoplexy which is thought due to acute softening following hemorrhage.

As to the general accident, unless in some particular instance, the nervous system could only be affected by shock and fright. Possibly this type of injury furnishes the majority of the so-called compensation neuroses. However, shock can affect one sufficiently to produce various degrees of exhaustion, but not structural changes in the nervous system Should symptoms arise indicative of organic disease search should be made for other etiological factors.

These individuals suffer their accidents and after recovering from the fright and anxiety they begin to revive the accident, turn it over in their mind, think it over and develop ideas of all kinds. This is Lippman's explanation of the development of traumatic neuroses. Sir John Collis would say they are not suffering from the accident but from the memory of it.

Before condemning these people as compensation neuroses, bear in mind they were injured. They feel and believe this injury caused their disability. It is a reality to them.

Neuhaus, in the Nebraska State Journal makes a very interesting statement. "In Denmark compensation is paid in a lump sum at an early stage of the incapacity, and 93.6 per cent of the injured recover from what in this country would be called traumatic neuroses. On the other hand, in Germany the sick man is entitled to a pension and only 9.3 per cent recover from the same disease."

The relation of infectious or toxic conditions following injury needs but little discussion. Our knowledge of pathology and bacteriology has removed many supposed traumatic cases from the list.

In the past few years new interest has been aroused in trauma as a cause of paralysis agitans. The frequency of trauma in the history of encephalitis has brought the question before the courts. Several articles have appeared, especially in Europe, and some hold that trauma can cause paralysis agitans, but it is generally considered that it is only a contributing, rather than an actual cause.

Some writers have reported peripheral injury as a cause, but it is doubtful that an injury to an arm or leg could do more than lead the disease to first appear in that arm or leg.

In a case of Parkinsonian Syndrome with a history of infection, it is hard to establish an injury as the cause. Personally I have seen so many cases of encephalitis so intimately associated with, and begin after various injuries that I wonder if this virus is particularly alighted by injury.

Recently a decision by a Western State court was made in favor of the claimant. The Court said the doctors did not know the cause of the disease, their opinion was too speculative about previous infection.

In searching the literature I find an article upon the relation of trauma and infection. This German author concludes as follows:

1. A trauma, because of the concussion of the central nervous system, can produce a locus minoris resistentia. If an infection or intoxication is present at the time or soon after, a disease may develop at this point, primarily from the injury, and secondarily from the infection. This danger is present until all repairs from the injury to the central nervous system have been completed, perhaps three to four weeks.

2. Even if a clinical recovery has occurred after an injury to the central nervous system, frequently a locus minoris resistentiæ may remain, and in later years an infectious or toxic process may attack this location, with a recurrence of the neurologic symptoms. Permanent traumatic blood vessel changes may help to explain some of these recurrences.

Recently I saw a man who received an apparent slight injury to the head, and three or four months later developed a tremor in the hand, a picture of beginning paralysis agitans. It is difficult to keep from associating this condition with his accident, but when we consider that the pathology is degenerative it is equally difficult to believe that trauma caused it. If the injury is sufficient to cause a slight hemorrhage or acute softening in the basil ganglia we could have tremor resembling paralysis agitans. A very strong argument against trauma is the fact that so few cases follow severe injury. During the World War head injury was frequent, but one does not see paralysis agitans in these cases.

Bing claims that to establish a causal connection between trauma and paralysis agitans we should consider the following points:

1. The trauma must be severe enough to be able to cause some cranial lesion or at least call forth symptoms of a commotio cerebri-cerebral concussion.

2. The patient who suffered from the trauma must not have been previously subject to any cerebral symptoms.

3. The Parkinsonian syndrome must not follow immediately the trauma; their development ought to be preceded by some prodromal symptoms (cerebral symptoms) which would then gradually develop a characteristic clinical picture. Bing believes that should these points be strictly observed, the number of cases of traumatic Perkinsonism would be reduced to a minimum.

An editorial in the Journal, American Medical Association ends with this statement: "While the relation of trauma to paralysis agitans still remains an open question the problem certainly deserves further and close study on account of its practical importance."

Epilepsy: There are two different questions concerning epilepsy. First, those occurring in the individual with damage to the brain, second those without demonstrable structural change. So frequent the parents will say "my child had a fall several years ago, could that have any relation to his attacks." It is a difficult question to answer.

When convulsions occur ten to fifteen years after a head injury it causes one to wonder if this will occur in another case, however, when we consider the number of head injuries and so comparatively few epilepsies the chances are small. The statistics of war head injuries show that four to six per cent develop convulsions. In children who suffer brain injury resulting in paralysis the statistics show convulsions in 30-50 per cent. There is no special explanation for this unless it be the development period of life.

Animal experimentation shows that head injury causes an animal to be more susceptible to convulsant drugs. This might apply to the human individual, especially in some predisposed individuals. Another point which deserves attention is the fact that fright or emotional shock can precipitate convulsions, but not in the sturdy stock. The English writers favor the opinion that there is a predisposition to develop convulsions.

As to cord diseases, trauma is more frequently a contributing cause. I recall a negro man who received an injury about the neck and shoulders. He was treated in the City Hospital. He recovered without apparent disability. In the course of several months he returned with partial paralysis of both arms—beginning amyotrophic lateral sclerosis. The boy died and autopsy was obtained. The cord showed cylindrical cavities in the cord. Similar cases have been reported and are doubtless due to small hemorrhages or abnormal repair of edema.

Hassin says "The changes caused by concussion can be summed up as follows: Concussion produces definite histopathologic lesions in the form of foci of softening, which do not depend on the condition of the vertebral column, meninges or vessels, the foci may be so minute that they escape notice on superficial examination; they may be confined to the gray matter, and may involve the ventral horns, when a clinical picture of amyotrophic lateral sclerosis obtains; the onset of the clinical symptoms is slow, and the course is progressive , depending on the time necessary for the nerve degeneration to become manifest.

Tumor of the brain and cord. This question seems to be upon pretty firm ground. It is generally accepted that trauma is not a cause. It may have something to do with

localizing a tumor growth in a particular area. Considering the large number of head injuries during the World War, you do not hear of tumors. Cysts may form, but not tumors.

Recently the Mayo clinic discussed this question, especially with reference to Glioma and compared the history of brain tumors with individuals without tumor and found that head injury was just about as frequent in non-tumor cases as in tumor cases.

The older writers would say on account of the frequency of the history of injury it is mentioned as a cause.

Insanity—Hemorrhage occurs most frequently in the frontal and temporal areas and may account for the wild excitement and delirium which occurs in accident cases.

Authors seem to favor a more general effect upon the brain as a whole rather than a special damaged area as giving rise to mental symptoms. It is remarkable how much damage can be done and still retain mental capacity. Should the language centers be involved changes in disposition are quite common. This is not insanity. Insanity following injury furnishes a very small per cent. Eager of England in a study of the war injury cases found less than one per cent following head injuries. This conforms with an American author following an investigation previous to the World War.

There is no special clinical type which may follow injury other than those with actual destruction of nerve tissue. In this instance the mental changes are of the organic type as dementia. Milder forms as melancholia may appear in those constitutionally unstable after worry and anxiety over their circumstances.

Recently a number of cases of melancholia —not related to trauma, was subjected to an encephalogram. The result of this investigation revealed that nearly all had marked areas of supposed cortical or pressure atrophy. It is well to remember this when investigating your traumatic cases. In other forms of insanity trauma is considered only a contributing factor.

In reviewing this subject one is impressed with the possibilities of various damages being done to the nervous system. Again when we see cases recover after receiving compensation one does not keep from forming an opinion. Recently several good articles have appeared expressing different conclusions just as it has been for many years in the past. however. there is no question but what a clearer line of demarcation is being drawn between the organic and functional.

The advancement in our understanding of these situations helps separate them. By the appreciation of the similarity of the concussion syndrome and that of early cerebral arteriosclerosis one naturally thinks of an irritable, unstable, variable circulation in the brain resulting from the effect the accident had upon the nervous system, especially the vaso-motor or sympathetic.

In due time, and under favorable circumstances these patients may recover, but that does not establish compensation neuroses. Neither does a bunch of subjective symptoms establish a true concussion syndrome or neuroses.

I am satisfied many factors enter the development. I cannot accept the opinion that it is all a question of money. Some are misled in the interpretation of their symptoms, some are victims of environment, conflicts and suppressions. Some were worn out at the time of the accident, permitting a greater degree of shock. Some unquestionably want money. Some were injured

I am of the opinion that the most important single factor in the interpretation of the clinical manifestation is the effect of the accident upon the nervous system which disturbs the circulation of blood and cerebrospinal fluid.

In addition we must consider the individual and his motive. If symptoms indicative of organic disease appear one can only conclude the causal relation after examination and consideration of all facts and possibilities. If the symptoms indicate system tract lesions, as in Tabes, it is well to consider other causes as the ill effect of trauma is not likely to cause symmetrical lesions. Frequently the doctor is placed in a difficult and responsible position when these cases come for their opinion.

I oftentimes think we are unfair in forming an opinion after one examination. A longer period of observation helps to learn more about the individual who has been injured, certain personalities react differently than others. It requires time to evaluate the symptoms. Foster Kennedy has made and laid down a good rule to follow: "One must seek harmony between the degree of injury, the subsequent history of the patient's symptoms and his physical condition."

DISCUSSION

Franklin Jelsma: In opening this discussion I wish to present a few encephalograms and mention briefly how encephalography may be employed in the study of trauma as a causative factor in nervous diseases.

In the first place, let us remember that in the cranial cavity there are three main sub-

stances, the brain substance, the spinal fluid, and the blood, and that when there is alteration of any one of these three substances, there is a reverse or counter action of the other two. For example, if the spinal fluid were increased in volume it would be necessary for the blood volume to be reduced or for the brain substance to be compressed, or both. Or, if the solid substance of the brain were to be increased, it would be necessary for the spinal fluid and the blood to be decreased in volume.

Let us remember, also, that in making an encephalogram it is first necessary to remove all of the cerebrospinal fluid, the volume of which is normally 100 to 110 c.c., and to replace this fluid with air, which occupies the cerebrospinal fluid spaces. Then an X-ray picture is taken of the head and the presence of air in the cerebrospinal fluid spaces enables us to visualize them and thus determine whether there has been any change in the relationship of the intracranial contents.

W. E. Gardner: Having had a prevue of Dr. Moren's splendid paper on a subject that is of tremendous interest to all of us, and then heard him present it in his usual convincing style, there is little left to be said that would add much value to a discussion of the subject which he has brought to our attention. He has reviewed all literature of importance pertaining to the subject, both new and old, and interspersed his own reactions, here and there, to the opinions expressed by the numerous authorities he has quoted, and cited cases of his own as illustrative of his conclusions. A few observations, however, suggest themselves.

Dr. Moren has confined his discussion essentially to these nervous disorders resulting from head trauma, with only brief reference to peripheral nerve injuries, and has excluded, in so far as was possible, a discussion of coarse brain lesions directly attributable to head injury. In other words, his paper has dealt more directly with those conditions usually referred to as secondary to so-called concussion of the brain, or more technically referred to as "commotio cerebri." He has discussed the anatomic, physiologic, and psychogenic factors which might offer a reasonable explanation of the concussion syndrome, and is impressed with the probability that it can be best explained by a neuro-circulatory disturbance or the prestasis referred to by Hassin; and that in true concussion there are, after all, at least microscopical anatomic changes in the blood vessels or parenchyma of the brain that would account for the symptoms. He calls particular attention to the similarity of symptoms of early cerebral arteriosclerosis and those secondary to concussion; and while the latter have usually been referred to as being of functional origin, the modern authorities he has quoted would seem to disprove such an assumption.

However, when we come to the consideration of a traumatic neurosis, pure and simple, in the light of our present day knowledge, especially from the psychiatric standpoint, we are inclined to assume that if there have been any anatomic or physiologic factors responsible for the immediate symptoms following head injury, they have largely disappeared at the time of the development of a neurosis, many weeks or even months subsequent to the injury. We do not even assume, although it is possible, that a "locus minoris resistentia," referred to by one of Dr. Moren's German authors, still exists; or that it is necessary to have any residual physical basis for the development of a neurosis.

We believe that if a diagnosis of traumatic neurosis is made, it should be thought of as a true neurosis, and not be confused with so-called neurotic symptoms secondary to anatomic or physiological changes already referred to. The symptoms may be just as severe and just as real to the patient as if they had a definite physical background; and, furthermore, be directly related to an injury to the head or other parts of the body.

They have this important difference, however, in that they serve as an escape mechanism from a pre-existing unhappy emotional state, and the injury to the head or other parts of the body serve as a bridge, so to speak, that satisfies the patient's self esteem and carries him over into an illness to which he was already predisposed. He may have all of the symptoms mentioned by Dr. Moren; such as headache, dizziness, vertigo, insomnia, irritability, anxiety, depression, memory defects, fatiguability, tinitness, deafness, loss of weight, etc., and still be neither a malingerer nor a case of so-called compensation neurosis. If, furthermore, he has no more than a pure neurosis and his symptoms are directly related to an injury; or the latter was the occasion for the release of his symptoms, his case is as compensable as if he had sustained a demonstrable organic lesion, and in proportion to the degree and extent of his disability.

There is a vast difference between the unconscious simulation of physical disease by an individual who is the victim of a neurosis, and the wilful, deliberate attempt of the malingerer to create or exaggerate symptoms for the purpose of financial gain. Fortunately, the percentage of the latter is much less than is generally believed, on account of the essential honesty, decency and consideration of others which the average worker posesses, and the fact that if one is suspected of malingering he does not usually obtain much sympathy from other workers associated with him. It has so happened that in most instances in which I have been

asked to make special examinations in compensation cases I have been employed by insurance companies; and while in a few instances malingering has been suspected, it is a most difficult thing to prove, because one cannot arbitrarily and conscientiously disregard the subjective symptoms so frequently complained of, although he may have an honest doubt that they really exist. One of the best criteria that we have to guide us is the fact that a malingerer will resist repeated examinations and usually has the reputation of having been a bad actor previous to his injury, whereas the truly neurotic patient is always willing and anxious to have as many examinations as may be requested.

Dr. Moren made the statement that children and adults who are injured at play do not suffer as frequently as those employed or injured by the negligence of others. I assume that he means that they do not suffer from traumatic neurosis; and if so, I thoroughly agree with him, because one is usually happy when at play, and easily excuses his own misstep or that of others. If, however, he is somewhat emotionally unstable and employed by what he believes to be a so-called soul-less corporation, and is not entirely happy in his employment, or is beset with other difficulties, either domestic, financial or social, and sustains an injury, it is another story. A traumatic neurosis may easily ensue. If, on the other hand, he is constitutionally a well integrated type of personality and happy in his employment, he may suffer a much more severe type of injury and come through without a suggestion of neurosis.

Time will not permit an extended discussion of Dr. Moren's comments on the use of the encephalogram as a diagnostic measure, but I agree essentially with everything he has said regarding it. It is a most valuable aid in diagnosis when properly done, carefully interpreted, and shows positive evidence of a localizing lesion or obstruction in the sub-arachnoid spaces; but if reported negative it may, in some instances, be misleading and not confirmatory of positive clinical findings. I would therefore, issue a word of warning about too much dependence upon an encephalogram alone. It may, in exceptional instances, indicate either local or generalized cortical atrophy when none exists, as reported by Dr. Moren; or it may appear to be entirely negative in some cases of relatively mild cortical damage and yet of sufficient severity to produce very definite clinical symptoms both localizing and otherwise.

It is undoubtedly true that some cases of traumatic neurosis have had at least temporary relief of symptoms following encephalographic studies alone; and just why this is we do not know, but I suspect that it is largely psychological in that it gives added assurance that there is no serious damage to the brain; or it may be the result of substituting the very definite pain following the encephalogram for the vague headache and dizziness of the neurosis, and after relief of the more severe pain the original symptoms appear to be of secondary importance and largely disappear.

J. Garland Sherrill: Dr. Moren's resume of this topic is very impressive. We must remember that the neurologist sees these patients in retrospect, while the man who first attends the patient sees the immediate aspects, and the final outcome in many cases will depend upon how good an observer and clinician he is. There is no injury to the brain too trivial to deserve serious consideration; on the other hand, there are few injuries to the brain so serious as to be absolutely hopeless. The brain is one of the best protected parts of the human body and will stand a vast amount of injury.

There is in all brain injuries, however, whether of major or minor consequence, a greater or less degree of psychic shock which must be taken into consideration in the study of these cases. We saw this fact demonstrated many times during the late World War. We long ago practically discarded the term "concussion" of the brain because we learned that in practically every such case there are minor hemorrhages in the brain which account for the symptoms, and we now call it contusion, or laceration of the brain. Minor hemorrhages in the brain may result in imperfect repair and perhaps give rise to cerebral softening. The longer the hemorrhages continue the more likely there is to be degeneration of the brain and permanent injury.

Many cases of minor injuries to the brain go along and finally the patients become malingerers. Much depends upon the character of the patient, whether he is of the phlegmatic type, with a stable nervous system, or the reverse, and in many cases it requires skilled judgment to determine whether the patient is malingering or not. Oftentimes they got well very quickly after being "paid off."

Morris M. Weiss: I wish to emphasize Dr. Gardner's statement that a patient with a traumatic neurosis often suffers just as much disability and is as justly entitled to compensation as one with an actual demonstrable lesion. We occasionally see individuals who, as the result of strain from lifting a heavy weight or from a blow in the chest, sustained while performing duties incident to their employment, develop neuro-circulatory asthenia, with palpitation, shortness of breath and complete but temporary disability. Such individuals are entitled to compensation.

Of course, in neuro-circulatory asthenia the

prognosis is better, and it is true that some of these cases clear up very quickly after receiving compensation, but many of them are really temporarily disabled and unfit for work and these, I feel, are entitled to some recompense for time lost from gainful employment.

PSEUDO-HYPER-TROPHIC MUSCULAR PARALYSIS OR MUSCULAR DYSTROPHY*

PHILIP F. BARBOUR, M. D.

Louisville.

This is a disease occurring in childhood, affecting males more commonly than females, in which heredity plays an important part. The first symptons noticed are clumsiness in walking and progressive enlargement of the calf muscles.

The muscular weakness is often in marked contrast to the powerful appearance of the muscles. There are no sensory changes and often no neurological findings. The dystrophy later spreads to the shoulder girdle group of muscles and later the back muscles.

The gait is characteristically "waddling" and on attempting to arise from a sitting posture the patient will "climb up his legs," putting his hands on his lower legs then the thighs to raise the trunk.

The symptoms are slow and progressive and deformities of the feet, knees, and later the spine result, until the child is helpless.

Death usually occurs from some intercurrent disease. The pathology is an initial hypertrophy of the muscles soon followed by degenerative changes. The nuclei of the muscle cells disappear and deposits of fat and fibrous tissue replace the muscle fibres. This fat and fibrous tissue later atrophy and the muscles waste to less than normal size.

In typical cases the diagnosis is easy. This disease must be differentiated from muscular atrophy due to cerebral lesions, from multiple neuritis and peripheral neuritis. The prognosis is unfavorable, but the progress may be very gradual and remissions may occur. The treatment thus far has been unsatisfactory. Several large series of cases have been reported by Boothby, Vosnell and others, in which glycocoll or glycine were used, with adrenalin, in which the progress apparently has been arrested and the condition improved. In this case I feel that the treatment had very little if any effect on the progress of the case. As a rule operative treatment is not indicated, but braces may be of benefit to prevent deformity and offer support.

This child has been seen several times since he left the hospital and there has been a gradual increase in the weakness of the muscles so that now he has great difficulty in standing and walking alone.

CASE REPORT

Patient, A. H., age 10 years.

Diagnosis: Progressive Muscular Dystrophy.

Patient admitted to the hospital on 3-15-34 because of weakness and difficulty in walking.

His family history and past history were negative except that he has had several attacks of asthma during past winter.

Patient had a congenital club foot on the right, which was operated on at the age of 4 years. Since that time he has had difficulty in walking and weakness in his legs.

Since September, 1933 this weakness has become so bad he frequently falls to the floor while walking and it is almost impossible for him to climb stairs. He has a lumbering type of gait and would throw his legs forward and laterally. His appetite became so poor he would hardly eat anything.

He was a fairly well developed and nourished male white boy who walks with a lumbering gait. His physical was negative except for his extremities. There was marked atrophy of his arms and legs. The right leg was more atrophic than the left. The lumbar and shoulder muscles were atrophic and the shoulders could be elevated upward and forward to a marked degree. He held his spine rigid and straight. His gait was lumbering. When he rose from a sitting position he went through the typical maneuvers of a patient with progressive muscular dystrophy. Reflexes are absent except biceps.

Laboratory: Urinalysis negative, Hgb 80, RBC 4,330,000, WBC 10,800, Lymphs 30, Polys 58, Monos 12. Wassermann negative. O. T. 1-1,000 negative.

In the three months he was in the hospital he was put on 10 grains of glycocoll daily and 3-8 grains of Ephedrine Sulphate b. i d. He was on a high protein diet. In this time his appetite improved and he became stronger. There was no change in his reflexes or his gait. He was discharged improved.

*Case report from the Children's Hospital, Louisville.

Dick Test and Blood Ager Cultures in Diagnosis of Scarlet Fever. Gasul and Rhoads state that a persistently positive reaction to the Dick test during the whole course of the disease throws great doubt on the correctness of the diagnosis, while a positive reaction at the beginning of the disease together with a negative reaction during the course of the disease is confirmatory evidence that the disease is scarlet fever. According to their experience, cultures negative for hemolytic streptococci, propertly taken at the beginning of the disease on a properly prepared medium and properly interpreted, offer stong evidence against the correctness of a diagnosis of scarlet fever.

ARACHNIDISM OR SPIDER POISONING*

MORRIS H. THOMPSON M. D.
Louisville.

Popular opinion has long had it that the bite of spiders is poisonous. Arachnologists and ethmotholgists have been almost unanimous in the opinion that this is not true. Medical men have often been accused of unscientific readiness in accepting the truth of the fact of spider bite poisoning without a proper investigation of the actual facts presented. Nevertheless, the careful observation of a number of trustworthy investigators during the past few years has definitely shown that the bite of certain spiders does produce toxic symptoms in the human being and such investigations cannot be lightly disregarded.

I am reporting a case of spider bite poisoning which occurred in my practice. First, because the rarity of the condition invites our attention as a medical curiosity, and secondly because search of the literature on the subject has failed to reveal any other case in this section of the country.

The patient was a male about sixty years of age whose previous history was essentially negative. He gave a history of having been bitten by a spider which he described as of being glossy black in appearance with long hairless legs and marked on the under surface of the abdomen by a large red dot. No immediate symptoms were noticed except some stinging at the point of the bite and an examination of the bitten area revealed two minute puncture marks without any remarkable surrounding swelling or edema. About fifteen minutes later the patient was seized with a severe generalized aching abdominal pain. The patient also noticed some shortness of breath and a dull occipital headache and stiffness of the neck. Very rapidly he began to develop shooting pains in the legs, and a sensation of numbness was complained of in both feet. The patient was nauseated but did not vomit. Obstinate constipation persisted in spite of several strong laxatives.

I saw the patient several hours after the onset of the symptoms. At that time he seemed severely ill. Examination revealed the fact that the respiration was shallow and gasping. Bradycardia was present, the pulse being 65 and regular. The blood pressure was 160-90, some hypertention existing. The pupils were definitely contracted and irregular. A slight, but, definite stiffness in the neck was present. The patient complained of numbness of the feet and shooting pains in the legs, but, no objective loss of sensation could be discovered. All of the deep reflexes, particularly the knee jerks were markedly hyperactive. The most unusual finding was a board-like rigidity of the abdomen without, however, any localized abdominal tenderness. This generalized rigidity simulated that which is seen in ruptured peptic ulcers. After a large injection of morphine which failed, however, to relieve the abdominal pain, the seriousness of the patient's condition was explained and hospitalization advised. At the hospital a few hours later his condition remained essentially unchanged except that the respiration became essentially normal. A spinal puncture performed, revealed fluid under an increased pressure of 200 m. m. of water. The Wassermann on the spinal fluid was negative and there was no increase in cells. The urinal analysis was negative except for a trace of albumin. The white blood count was found to be 14,500 with 85 per cent polymorphonuclears and 15 per cent lymphocytes.

Briefly, the course in the hospital was characterized by a marked clearing up of the abdominal rigidity and pain after about 24 hours. The patient was still, however, complaining of some neuralgic pain in the neck and of the shooting pains in the legs and the numbness of the feet. On his discharge from the hospital, seven days later, the reflexes had returned to normal. After about three days the pupils assumed again their normal reaction to light and accomodation. Obstinate constipation was a marked feature of the disease and persisted up until discharge. The blood pressure on the third day had fallen to 130-70, though the bradycardia persisted. The temperature at no time exceeded 100.5 degrees.

The only treatment consisted of frequent doses of morphine to control the abdominal pain, attempts at purgation which were unsatisfactory, and the spinal puncture. The patient was discharged much improved at the end of seven days.

The spider producing this type of poisoning is Lactro Dectus Mactans, perhaps the only poisonous spider found in the United States. Synonyms of this particular spider are the Black Widow, The Hour Glass Spider, The Shoe Button Spider, The Pookoomoo, or simply the poison spider as it is called in the south. The female is responsible for all of the cases of poisoning. This spider is in general about a half inch in length and has, when fully developed a leg spread of about one and one-half inches. Its abdomen is shaped very much like a shoe button. The spider is shiny black in appearance and on the ventral surface of the abdomen is a brilliant red marking in the shape of an hour

*Read before the Jefferson County Medical Society.

glass. It is found throughout all of the southern states from the Atlantic to the Pacific coast and is quite common in California. It is less commonly found in the colder northern states. Its normal habitat is in hidden dark places near the ground, such as under old piles of lumber, around the bases of trees, in basement, barns and outhouses. It produces its bite in the early morning or late in the evening and during the spring or summer months. Males are much more commonly attached than females. In the American literature only about 150 cases have been reported in the past century.

The diagnosis rests:

1. Recognition of spider bite, the local symptoms of which are inconsequential.
2. Generalized severe aching abdominal pain.
3. Boardlike rigidity of the abdomen.
4. Nausea and vomiting may be present.
5. Obstinate constipation.
6. Occipital headache.
7. Shooting pains in the extremities.
8. Subjective complaints of numbness in the extremities.
9. Dilated pupils usually.
10. May be myotic spasdic retention of urine in some cases.
11. Irregularity of respiration and cyanosis in some cases.
12. Bradycardia.
13. Hypertention of the blood and spinal fluids.
14. Hyperactive reflexes.
15. Slight elevation of temperature, usually not over 101 d.
16. Leucocytisis average around 15,000 with a relative increase in p. m. n. leucocytosis.

It is generally agreed that these symptoms are the results of a neuro toxic type of poison, the nature of which has not, as yet, been definitely established. Extensive experiment at the Los Angles General Hospital on laboratory animals has established the fact that the poison is not a hemolysin. Injections into laboratory animals of extracts of the whole spider or of extracts of the poison sacks apparently do not result in hemolysis. However, following the bite rats usually become listless, develop an arched back (Opisthotonous), develop a paralysis of the extremities, refuse to eat and death ensues within two days. The toxin is apparently much more potent than rattlesnake venom. In the human, death does not usually ensue following a single bite, and complete recovery is the rule within two weeks. A number of deaths, however, in the United States, following the bite of Lactro Dectus Mactans have been reported and the literature of numerous foreign countries contain instances of death following the bite of related species. It is interesting to note that a number of the cases masking as acute surgical abdomen have been operated on before the true condition could be determined.

Insofar as treatment is concerned the only satisfactory means that has been developed is the injection of from 10 to 50 c. c. of the blood serum of a convalescent patient intramuscularly into the acute case. This has given good results in shortening duration of abdominal pain. Morphine and sedatives are generally required in large doses, but, even morphine is not entirely satisfactory in controlling the agonizing abdominal paroxysms. Spinal puncture is usually performed, in the hope of relieving the headache, by reducing the spinal fluid pressure. Hypertonic solutions glucose are generally given with the same object in view.

The differential diagnosis would include, of course, an acute surgical abdomen, strychnine poison which it closely resembles and tetanus if the symptoms enumerated are considered in conjunction with the history of spider bite, no confusion should result.

BOOK REVIEW

THE DOCTOR'S BILL by Hugh Cabot, M. D., with an introduction by A. Lawrence Lowell, Columbia University Press, publishers, New York City. Price $3.00.

Who will pay the doctor's bill in the future? The patient? For lack of money several million Americans today are receiving inadequate medical care, if any.

The doctor? The average physician's income is falling. He is not getting proper compensation for his work.

The State? Even now the public bears a heavy tax load.

How, then, can medicine be fitted into the present drive to obtain economic security for all? It is a pressing problem. It demands the cooperation of the public, the physician and the state.

This book offers a much-needed background of authentic information. It is not a plea for the imposition of any system. It does present, in language the layman as well as the doctor will appreciate, evidence of an economic and technical character, together with a logical consideration of the various plans which have already been proposed.

The author, Dr. Hugh Cabot, a former dean of the Faculty of Medicine at the University of Michigan, is now one of the Senior Consulting Surgeons at the Mayo Clinic of Rochester, Minnesota.

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NEXT MEETING LOUISVILLE

COUNTY SOCIETY REPORTS

Harrison: The Harrison County Medical Society held the regular monthly meeting May 6, 1935, at the Harrison Memorial Hospital.

Members and visitors present were: Drs. Smiser, Chamberlin, Midden, Swinford, Blount, Moody, Wells, N. W. Moore, Wyles, McDowell, W. B. Moore, Rees, Martin and Brumback, Dr. W. D. Heusinkveld, Cincinnati, Drs. Ray, Harvey, Scott and Murray, Lexington; Dr. Richard McMurtry, Falmouth.

Discussion was opened by Dr. Murray, Lexington, followed by Dr. Scott and Dr. Harvey, Dr. Ray, Dr. Rees and Dr. Martin. The discussion was closed by Dr. Heusinkveld and the meeting adjourned.

Dr. Huesinkveld was the guest speaker and read a paper on "Minimal Pulmonary Tuberculosis, (Diagnosis and Treatment.)" He exhibited a number of X-ray films illustrating pulmonary conditions.

W. B. MOORE, Secretary.

Letcher: Letcher County Medical Society assembled in Banquet Session at the Jenkins Club House on Tuesday night, May 28, 1935. The following physicians and their wives and friends were present:

Dr. and Mrs. E. F. Sheppard, Jenkins; Dr. Noah Short, Norton, Va.; Dr. B. C. Bach, Judge and Mrs. Monroe Fields, Rev. and Mrs. Benette Adams, Mr. Lee Adams, Mr. N. M. Webb, Editor, of Whitesburg; Mr. and Mrs W. C. Halvert, and Mr. J. B. Weaverling of Jenkins; Dr. and Mrs. Can Bentley, Neon, Ky.; Miss Beulah Threkle, Wheatley; Miss Virginia Collins, Mayslick; Dr. and Mrs. Clyde E. Watkson, McRoberts; Rev. O. V. Caudill, Whitesburg; Miss Grace Wells, Whitesburg; Miss Mary Finley Halloway, Louisville; Dr. and Mrs. P. E. Sloan, Whitesburg; Dr. G. D. Ison, Blackey; Dr. T. M. Radcliffe, Kona, Ky.; Dr. and Mrs. J. Y. Harper, Mr. and Mrs. L. E. Kelley. Dr. and Mrs. J. E. Stanfill, Dr. and Mrs. J. D. Culbertson, Dr. and Mrs. T. M. Perry, Miss Margaret Ashworth, of Jenkins; Dr. and Mrs. J. S. Newman, McRoberts; Dr. J. E. Jonhson, Dunham; Dr. and Mrs. J. E. Crawford, Whitesburg; Mrs. Ruth Anderson, Jenkins; Dr. L. B. Wolf, Van-Lear; Mrs. Carl Smith, Wise, Va.; Dr. and Mrs. G. B. Setzler, Pennington, Va., and Dr. and Mrs. R. Dow Collins, Whitesburg.

Dr. E. F. Sheppard read a splendid paper on Hernia, which was ably discussed by Dr. Setzler and Dr. Stanfille. Miss Halloway made a few brief remarks relative to the Cripple Children Clinic to be held soon at Jenkins, by the Whitesburg Rotary Club. Several selections were played from time to time by the musicians and Miss Threkle gave a piano solo.

R. DOW COLLINS, Secretary.

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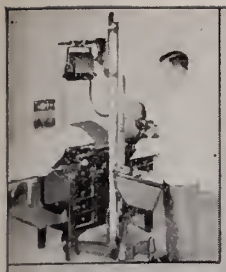
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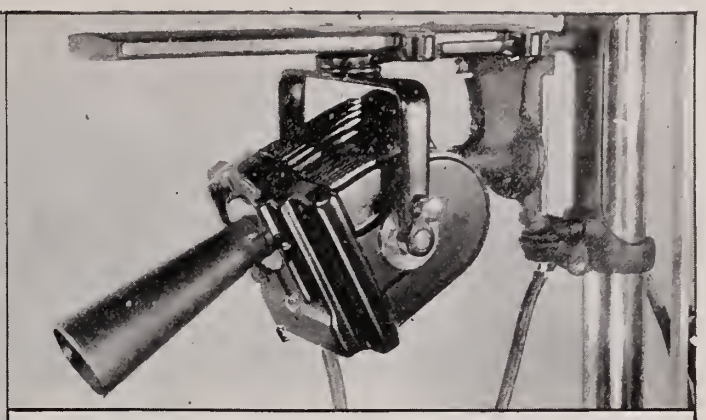
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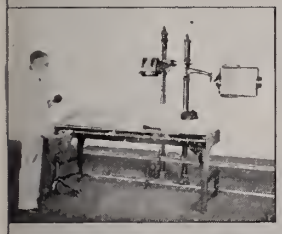






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KENTUCKY MEDICAL JOURNAL

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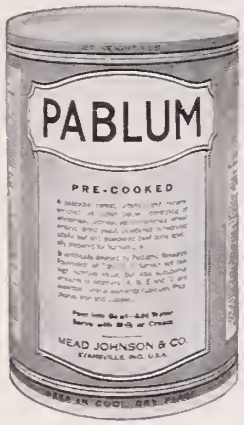
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(1) The Art of Preserving, M. Appert, Black, Parry and Kingsbury, London, 1811.

(2) Thermal Process Time for Canned Foods, C. O. Ball. Natl. Res. Council Bulletin, v. 7 No. 37, 1923

(3) Preventive Medicine and Hygiene, M. J. Rosenau, Appleton-Century, N. Y. 5th Ed. 1927.

This is the third in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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Floyd W. Aplin, M. D.

Waukesha, Wis.

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COUNTY SOCIETY REPORT

Madison 394

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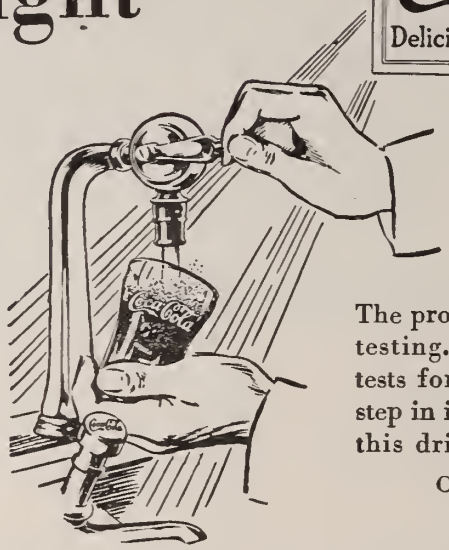
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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Adair	N. A. Mercer	Columbia	August 7
Allen	A. C. Miller	Petroleum	August 28
Anderson	J. B. Lyon	Lawrenceburg	August 5
Ballard	F. H. Russell	Wickliffe	August —
Barren	Paul S. York	Glasgow	August 21
Bath	H. S. Gilmore	Owingsville	August 12
Bell	R. F. Porter	Middlesboro	August 9
Boone	R. E. Ryle	Walton	August 21
Bourbon	W. B. Hopkins	Paris	August 15
Boyd	R. G. Culley	Ashland	August 6
Boyle	P. C. Sanders	Danville	August 13
Bracken	J. M. Stevenson	Brooksville	August 5
Breathitt	Frank K. Sewell	Jackson	August 20
Breckinridge	J. E. Kincheloe	Hardinsburg	August —
Bullitt	S. H. Ridgeway	Shepherdsville	August —
Butler	G. E. Embry	Morgantown	August 7
Caldwell	W. L. Cash	Princeton	August 6
Calloway	W. H. Graves	Murray	August 1
Campbell-Kenton	Luther Bach	Bellevue	August 1-15
Carlisle	J. F. Dunn	Arlington	August 6
Carroll	J. M. Ryan	Carrollton	August —
Carter	W. S. Hawn	Grayson	August 13
Casey	Wm. J. Sweeney	Liberty	August 22
Christian	M. A. Gilmore	Hopkinsville	August 20
Clark	R. E. Strode	Winchester	August 16
Clay	J. L. Anderson	Manchester	August 13
Clinton	S. F. Stephenson	Albany	August 17
Crittendon	C. G. Moreland	Marion	August 12
Cumberland	W. F. Owsley	Burkesville	August 7
Daviess	I. A. Thorpe	Owensboro	August 13-27
Elliott	W. H. Joyner, Act. Sec.	Sandy Hook	
Estill	Walter Cox	Irvine	August 14
Fayette	John Harvey	Lexington	August 13
Fleming	C. W. Christine	Flemingsburg	August 14
Floyd	J. G. Archer	Allen	August 28
Franklin	W. S. Snyder, Jr.	Frankfort	August 1
Fulton	J. C. Morrison	Hickman	August 14
Gallatin	J. M. Stallard	Sparta	August 15
Garrard	J. E. Edwards	Lancaster	August 15
Grant	C. A. Eckler	Dry Ridge	August 21
Graves	H. H. Hunt	Mayfield	August 6
Grayson	C. F. Blankenship	Leitchfield	August 29
Green	S. J. Simmons	Greensburg	August 5
Greenup	C. W. Monroe	Greenup	August 9
Hancock	F. M. Griffin	Hawesville	August 5
Hardin	D. E. McClure	Elizabethtown	August 8
Harlan	W. R. Parker	Harlan	August 17
Harrison	W. B. Moore	Cynthiana	August 5
Hart	S. F. Richardson	Munfordville	August 6
Henderson	Walter O'Nan	Henderson	August 12-26
Henry	Owen Carroll	New Castle	August 26
Hickman	Chas. Hunt	Clinton	August 1
Hopkins	David L. Saiman	Madisonville	August 1
Jackson			August 3
Jefferson	Uly H. Smith	Louisville	August 5-19
Jessamine	J. A. VanArsdall	Nicholasville	August 22
Johnson	P. B. Hall	Paintsville	August 10
Knott	M. F. Kelley	Hindman	August 24
Knox	T. R. Davis	Barbourville	August 23
Larue	D. W. Gaddie	Hodgenville	August 6
Laurel	Oscar D. Brock	London	August 14
Lawrence	W. C. Gose	Louisa	August 19
Lee	W. D. McCullom	Beattyville	August 10
Leslie	John H. Kooser	Hyden	August —
Letcher	R. Dow Collins	Whitesburg	August 27
Lewis	J. D. Liles	Vanceburg	August 19
Lincoln	Lewis J. Jones	Houstonville	August 16
Livingston	Wm. C. Davis	Salem	August —
Logan	Walter Byrne, Jr.	Russellville	August —
Lyon	H. H. Woodson	Eddyville	August 6
McCracken	Leon Higdon	Paducah	August
McCreary	R. M. Smith	Stearns	August 5
McLean	G. L. Thompson	Calhoun	August 8
Madison	Lewis C. Coleman	Richmond	August 15

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Marion	W. A. Resteen	Lebanon	August 20
Marshall	S. L. Henson	Benton	August 21
Mason	Allen F. Murphy	Maysville	August 14
Meade	A. A. Baxter	Brandenburg	August 22
Menefee	E. T. Riley	Frenchburg	August —
Mercer	J. Tom Price	Harrodsburg	August 13
Metcalfe	P. W. Bushong	Edmonton	August 6
Monroe	E. S. Dunham	Tompkinsville	
Montgomery	D. H. Bush	Mt. Sterling	August 13
Morgan	W. H. Wheeler	Betsy Layne	August —
Muhlenberg	G. L. Simpson	Greenville	
Nelson	R. H. Greenwell	Bardstown	August 19
Nicholas	T. P. Scott	Carlisle	August 7
Ohio	Oscar Allen	McHenry	August 6
Oldham	S. J. Smock	LaGrange	August 1
Owen	K. S. McBee	Owenton	August 5
Owsley	D. E. Wilder	Booneville	August 14
Pendleton	W. A. McKenney	Falmouth	August 12
Perry	R. L. Collins	Hazard	August 5
Pike	M. D. Flanary	Pikeville	August 5
Powell	W. Johnson	Stanton	August 8
Pulaski	M. C. Spradlin	Somerset	August 19
Robertson			August 8
Rockcastle	Lee Chestnut	Mount Vernon	August 12
Rowan	A. W. Adkins	Morehead	August 12
Russell	J. B. Scholl	Jabez	August 1
Scott	F. W. Caudill	Georgetown	August 15
Shelby	W. E. Morris	Shelbyville	August 13
Simpson	N. C. Witt	Franklin	
Spencer			August 8
Taylor	W. B. Atkinson	Campbellsville	August 7
Todd	B. E. Boone, Jr.	Elkton	August 28
Trigg	H. L. Wallace	Cadiz	
Trimble	J. J. Gerkins	Bedford	August 28
Union	D. C. Donan	Morganfield	August 14
Warren	Hal Neal	Bowling Green	August 21
Washington	J. H. Hopper	Willisburg	August 1
Wayne	R. E. Teague	Monticello	August 30
Webster	C. M. Smith	Dixon	August —
Whitley	C. A. Moss	Williamsburg	August 5
Wolfe	G. M. Center	Campton	August 1
Woodford	Chas. F. Voigt	Midway	

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. 33 No. 8 | BOWLING GREEN, KY. | AUGUST, 1935

THE ATLANTIC CITY MEETING

The eighty-sixth annual session of the American Medical Association, which was held in conjunction with the sixty-sixth session of the Canadian Medical Society at Atlantic City in June, was no doubt the largest gathering of physicians in the history of medicine. The number of physicians registered for the first four days of the meeting was 8294 and it is a fair assumption that enough registered on the last day to bring the total up to 9000. In a measure the meeting place may have had to do with this large attendance, for Atlantic City offers a lure for the physician who is taking a brief holiday. This unique American resort with its many large and well conducted hotels and restaurants and its spacious meeting halls is equipped to entertain such a large gathering of physicians as is perhaps no other resort or city. The floor space in the huge convention hall in the auditorium was sufficiently large to house the commercial display and the scientific exhibit. The technical exposition, which is always an interesting feature of the A. M. A. gatherings, was perhaps somewhat larger than usual. All of the "regulars" among the surgical and optical instrument houses, the pharmaceutical and electric firms and publishers of medical books were represented and a large number of new exhibitors were there.

A noteworthy feature of the exhibit was a motion picture presented by the Board of Trustees of the A. M. A. showing the editing and printing of the JOURNAL and other A. M. A. publications, and the work of the bureaus of the Association and other activities, thus enabling the physicians to become familiar with the work the association is doing for organized medicine.

The scientific assembly, the fifteenth since its inception, sponsored section exhibits and was very instructive and unusually praiseworthy in its set up. Most of the displays consisted of motion picture exhibits which were run on a definite schedule throughout the day.

In addition to these instructive films individual investigations were presented and gross and microscopic specimens exhibited. The first prize in this department, which is based on originality and excellence of presentation, was awarded F. L. Adair and M. W. Davis of the University of Chicago for their original investigations in the development of ergot as a therapeutic agent and for the isolation of an active principle from this drug in crystaline state together with its pharmacological and medicinal properties.

The house of delegates composed of 175 members, in which Kentucky was represented by Drs. Abell, McCormack and Simpson, was confronted with some vital and difficult problems this year, not the least of which was the one regarding compulsory health insurance on the part of state or federal governments. The association encouraged the development of provisional medical service to low income groups as well as to the indigents but opposed unanimously and vigorously any compulsory and dictatorial health plan on the part of the Federal Government that would take away the independence and initiative of the profession.

The house of delegates voted to hold the next annual session of the A. M. A. at Kansas City and elected the following officers for 1935-1936:

President-elect J. Tate Mason, Seattle.

Vice-President, K. M. Lynch, Charleston, S. C.

Secretary, Olin West, Chicago.

Treasurer, H. L. Kretschmer, Chicago.

Dr. Mason, who graduated in medicine in 1905, University of Virginia, practiced for a short while in Philadelphia before he settled in Seattle in 1909 where he is practicing general surgery.

Interest was added to the general assembly by the presence of Dr. Allen Dafoe, obstetrician in the case of the Dionne quintuplets, as guest of the Society. Dr. Fishbein paid this modest Canadian physician a high tribute when he introduced him as "a physician who has won the admiration of the medical profession of the whole world by his marvelous conduct under unusual circumstances."

A large number of alumni, fraternity and

section dinners and the many activities of the Woman's Auxiliary featured the social program of this year's session.

The scientific programs were uniformly well selected and most of them were diversified in the subjects presented for discussion. The usual splendid arrangement to avoid conflict of hours of the various specialties represented enabled those interested in kindred subjects to visit in sections other than the one of their own affiliation.

The section on ophthalmology had a more diversified program than usual. While most of the papers were devoted to technical studies considerable attention was given this year to the hygiene and care of the eyes, especially as it relates to the cases of progressive myopia. The importance of sight saving classes as a preventive measure of defective eyes and potential blindness was stressed and the establishment of more sight saving classes to preserve the eyes of our developing children was urged.

The attendance of the section on ophthalmology was above the average, over 550 having registered. Leslie Paton of London, England, was the section's guest of honor. He discussed optic neuritis. The section elected Dr. John Green of St. Louis as its president for 1935-1936.

ADOLPH O. PFINGST.

SUNDAY, SEPTEMBER 29

It is perfectly apparent from the contacts the officers of the Association are making with the members of the County Societies that the Annual Meeting of the Association this year is going to register the largest attendance that has even been held at a medical meeting in Kentucky.

The Scientific Program has been practically complete. The announcement that Doctor Horine has arranged this program is all that is necessary to assure every physician in Kentucky that every essay and address will be full of interest and value. The preliminary meeting of the Committee on Arrangements of the Jefferson County Medical Society has already been held and arrangements are being made for both the professional and social side of the Session by the eager hosts of the Association. Especially attractive entertainment features are being provided for the Woman's Auxiliary.

For the past several years the sessions of the Association have been preceded, on the Sunday before the opening meeting of the House of Delegates, by a public meeting under the auspices of the Kentucky League of Christian Physicians, under the Presidency of Doctor Philip F. Barbour.

These preliminary sessions have placed before the people of the State the high ideals and altruistic standards of service of the medical profession. Doctor Barbour announces that the speaker this year at the Warren Memorial Church, on Sunday evening, September 29th, will be Doctor Felix J. Underwood, State Health Officer of Mississippi. Doctor Underwood is a former President of the Mississippi State Medical Association, of the Southern Medical Association, and of the Conference of State and Provincial Health Authorities of North America. He is a member of the House of Delegates of the American Medical Association from Mississippi and one of the outstanding physicians and public speakers of the United States. The League of Christian Physicians will present him to the profession and public of Kentucky with perfect confidence that his address will be up to the high standards set by his predecessors at these Sunday evening meetings.

ACT FOR THE SUPPRESSION OF MOUNTEBANKS

Dr. John T. O'Rourke, Dean of the School of Dentistry, University of Louisville, has sent the editor a copy of an act of the Legislature of Connecticut, under the above title, which was enacted in 1773. We are reproducing it here as an indication of the well recognized maxim that there is "nothing new under the sun." The act follows:

"Whereas the practice of mountebanks is dealing out and administering physick and medicine of unknown composition indiscriminately to any persons whom they can by fair words induce to purchase and receive them without duly consulting, or opportunity of duly consulting, and considering the nature and symptoms of the disorder for which, and the constitution and circumstances of the patient or receiver to whom they administer, has a tendency to injure and destroy the health, constitution and lives of those who receive and use such medicines: And whereas the practice of the mountebanks in publickly advertising and giving notice of their skill and ability to cure diseases, and the erecting publick stages and places from whence to declaim to and harangue the people on the virtue and efficacy of their medicines, or to exhibit by themselves or their dependents any plays, tricks, juggling or unprofitable feats of uncommon dexterity and agility of body, tends to draw together greater numbers of people, to the corrup-

tion of manners, promoting idleness, and the detriment of good order and religion, as well as to tempt and ensnare them to purchase such unwholesome and oftentimes dangerous drugs:

"Be it therefore enacted by the Governor, Council and Representatives, in General Court assembled, and by the authority of the same, That no mountebank, or person whatsoever under him, shall exhibit or cause to be exhibited on any publick stage or place whatsoever within this Colony, any games, tricks, plays, juggling or feats of uncommon dexterity and agility of body, tending to no good and useful purposes, but tending to collect together numbers of spectators and gratify vain or useless curiosity. Nor shall any mountebank or person whatsoever under him, at or on any such state or place offer, vend or otherwise dispose of, or invite any persons so collected to purchase or receive any physick, drugs, or medicines, commended to be efficacious and useful in various disorders."*

*Hawkers and Walkers in EARLY AMERICA, by Richardson Wright.

AN INVITATION

An invitation is extended to members of the Kentucky State Medical Association to attend any or all lectures on the scientific program of the National Convention of Chiropodists at the Brown Hotel from August 5th to 9th inclusive. A brief summary of the program is as follows:

Intricacies of the Short Wave Diathermy and Light, A. D. Willmoth, M. D.

Orthopedic Surgery of the Feet, Frank Strickler, M. D.

Verrucca and Ringworm, Robert L. Kelly, M. D.

X-ray Technique, Miss E. L. Stewart.

Several other lecturers from out of the city will be on the program; motion pictures and slides will be used extensively.

THE GOLF TOURNAMENT

The annual golf tournament of the Association will be held in Louisville, beginning Saturday, September 28 through October 2.

Prizes, as usual, will be given, but the committee has decided those that received them last year are not eligible for a trophy this year. Members of the Auxiliary are invited to join the tournament and compete for the prizes. Further details will be given in the annual number of the JOURNAL.

OFFICIAL ANNOUNCEMENTS

FIFTEENTH ANNUAL MEETING
of the
EYE, EAR, NOSE & THROAT SECTION
of the
KENTUCKY STATE MEDICAL ASSOCIATION
LOUISVILLE, KY.
MAY 6-7, 1935.

The Eye, Ear, Nose and Throat Section of the Kentucky State Medical Association held its Fifteenth Annual Meeting at the Brown Hotel in Louisville, on Monday and Tuesday, May 6th and 7th, 1935.

MONDAY, MAY 6th

DINNER MEETING—7:00 P. M.

The section and its guests, to the number of 54, assembled in the roof garden of the Brown Hotel at 7:00 p. m. The Guest of Honor was Dr. Lyman Richards, of Boston, Mass. After partaking of an excellent dinner, the assemblage listened to the following addresses:

PRESIDENT'S ADDRESS

Cephalalgia, by A. L. Bass, M. D., Louisville

ADDRESS OF GUEST OF HONOR

Pros and Cons of Jugular Ligation in Sinus Thrombosis

By Lyman Richards, M. D., Boston

TUESDAY, MAY 6TH

MORNING SESSION

The Section assembled at 9:30 a. m., and was called to order by the President, Dr. A. L. Bass, Louisville.

The roll was called by the Secretary, Dr. F. C. Thomas, Lexington, and the attendance was duly recorded.

Minutes of the meeting held in Louisville, in May, 1934, were read and, in the absence of objection or correction, were approved as read.

REPORT OF THE TREASURER: The following financial statement is hereby submitted:

Balance on hand at beginning of 1934 meeting		$113.90
RECEIPTS:		
1933 dues collected 7,	$21.00	
1934 dues collected, 48	144.00	
Amount collected in excess of cost of 1934 dinner	18.20	$183.20
Total to be accounted for		$297.10
EXPENDITURES:		
Expenses guest speaker, 1934 meeting	$52.00	
Program expense	10.00	
Secretary's expense	15.75	
Treasurer's expense	5.34	$ 83.09
Balance, Cash on hand		214.01

It appears that each year our cash balance increases somewhat, and I believe it has been the custom to spend this accumulation about every third or fourth year by giving a dinner at which all present are guests of the section. By the end of the present meeting this balance of cash on hand will have been somewhat increased and unless some one can think of a better way to spend it, I would suggest that the next meeting be held without cost to the members."

WALTER DEAN, Treasurer.

Upon motion, duly seconded and carried, report of the Treasurer was received and ordered spread upon the minutes.

The Secretary presented the application for membership of Dr. Auryn E. Bell, Louisville, proposed at the 1934 meeting and allowed to lie over for one year in accordance with the By-Laws, the applicant in the meantime having been duly approved by the Councilors. A ballot was spread, in accordance with the By-Laws, and Dr. Bell was declared unanimously elected to membership in the Section.

Moved by Dr. F. C. Thomas, Lexington, that election of officers be made a special order of business at the afternoon session, at 2:00 P. M. Motion duly seconded and carried. The President:

"I wish to make a statement concerning the place of meeting. It may appear to some members of the Section to have been rather selfish to have held this meeting in Louisville, in view of the fact that the 1934 meeting was also held here, but I took the matter up with a great many members out in the State and practically all of them favored meeting in Louisville. It was the will of the majority."

Dr. Dean read to the Society a telegram from Drs. Reynolds and Bell of Paducah, advising that Dr. Reynolds was ill and unable to attend the meeting, and expressing best wishes for a successful meeting. It was ordered that this communication be suitably acknowledged, expressing the hope of the Section that Dr. Reynolds will speedily recover his health.

Upon motion duly made, seconded and carried, the President appointed the following Committee to draft resolutions in memory of William Nelson Offutt, M. D., who had passed on since the last meeting of the Section: Dr. Sam B. Marks, Dr. Gaylor C. Hall, Dr. F. C. Thomas.

There being no further business before the Section the Scientific Session was proceeded with as follows:

CASE REPORTS

Case report by Dr. A. L. Bass, Louisville. Discussion by Drs. Lyman Richards, Boston, J. D. Heitger, Louisville, and J. D. Williams, Ashland.

Case report by Dr. J. D. Williams, Ashland. Discussion by Dr. F. C. Thomas, Lexington.

ORIGINAL PAPERS

The Healing of the Tonsillectomy Wound, by Dr. Walter Dean, Louisville. Discussion by Drs. F. W. Urton, Louisville, R. H. Cowley, Berea, Charles K. Beck, Louisville, Jos. D. Heitger, Louisville, Sam B. Marks, Lexington, Lyman Richards, Boston, and in closing by Dr. Dean.

Sinus Thrombosis, by W. S. Snyder, M. D., Frankfort. Discussion by Drs. Lyman Richards, Boston, R. Glen Spurling, Louisville, Jos. D. Heitger, Louisville, Sam B. Marks, Lexington, R. H. Cowley, Berea, Walter Dean, Louisville, Shelton Watkins, Louisville, and inclosing by the essayist.

Major Trigeminal Neuralgia, by R. Glen Spurling, M. D., Louisville. Discussion by Drs. Gaylor C. Hall, D. M. Griffith, Owensboro, J. D. Williams, Ashland, Jos. D. Heitger, Louisville, and in closing by the essayist.

Pulsating Exophthalmos, by M. C. Baker, M. D., Louisville. Discussion by Adolph O. Pfingst, Louisville, R. Glen Spurling, Louisville.

The Section recessed for luncheon at 12:30 P. M., during which a very interesting round table discussion of the subject "The Diagnosis and Treatment of Acute Otitic Infection in Children" was led by Lyman Richards, M. D., Boston, the Guest of Honor.

AFTERNOON SESSION

The Section reconvened at 2:00 P. M., and the President announced that, pursuant to resolution adopted at the morning session, the election of officers for the ensuing year was next in order.

The following officers were nominated and elected by acclamation.

President, F. C. Thomas, M. D., Lexington.

Vice-President, Shelton Watkins, M. D., Louisville.

Secretary—Will R. Pryor, M. D., Louisville.

Treasurer, Walter Dean, M. D., Louisville.

REPORT OF COMMITTEE ON RESOLUTIONS: It is with deep regret that the Eye, Ear, Nose and Throat Section of the Kentucky State Medical Association records the death of Dr. William Nelson Offutt, of Lexington.

Dr. Offutt was a member of this Section from its inception, served as its President

for 1932, was regular in his attendance and entered whole-heartedly into its deliberations.

He was born in Scott County on August 6th, 1876, received his early education in private schools at Georgetown and later attended Georgetown College.

After graduating from the Louisville College of Medicine in 1902, he spent a year in London under the tutelage of Professor Nettleship and others, later establishing himself at Lexington where he practiced his profession without interruption until his death, April 3rd, 1935.

He possessed tremendous personal charm and endeared himself to all with whom he came in contact and was both physician and friend to a large and devoted clientele.

Dr. Offutt, in spite of his busy practice, found time to conduct his farm in Scott County, to devote himself to Boy Scout work and to participate in hunting, fishing and shooting events, at all of which he was most expert.

He was a member of the Kentucky, Southern and American Medical Associations and a Fellow of the American College of Surgeons and of the American Academy of Ophthalmology and Otolaryngology.

He was an Elder of the Second Presbyterian Church at Lexington, a Knight Templar, a member of the Rotary Club and of the Phi Chi Medical Fraternity.

Dr. Offutt is survived by his wife, Mrs. Jane Scott Offutt, one son, Dr. William Nelson Offutt, Jr., who is preparing himself for the practice of Ophthalmology, three daughters, Mrs. Edward Long and Misses Mary Ford and Elizabeth Offutt, all of Lexington, and one brother, M. Webb Offutt, of Georgetown.

To the bereaved family the Section extends its sincerest sympathy. It feels that it has lost a valued member, a splendid physician, a sincere friend.

It is the wish of this section that a copy of this Memorial be spread upon its minutes. published in the State Medical Journal as a part of its proceedings, and that a copy be sent to his bereaved family.

Sam B. Marks
Gaylord C. Hall
F. Carleton Thomas,
Committee.

Dr. Walter Dean called to the attention of the Section a letter sent by a local firm of optometrists to physicians in Louisville and vicinity, a copy of which is attached to and made a part of these minutes.

April 24th, 1935.

Doctor:

When there is a question about the condition of your patient's eye refer him to an optometrist for examination.

Your patient will get a real examination, thorough, with careful search for any pathology.

You will get a real report.

Not alone as a matter of ethics, but also because he does not practice medicine, you are absolutely sure that the optometrist having cared for the refractive and muscular anomalies, will send your patient back to you for such medical attention as you deem it wise to give him.

In referring your patient to an optometrist for eye examination you are referring him to a real specialist, a specialist who will not even be tempted to give the slightest medical advice for the simple reason that he is not practicing any branch of medicine, his work is refraction and orthoptics.

Yet the optometrist is exceedingly careful in his search for eye diseases and for ocular manifestation of general disease, as is abundantly testified by the large number of patients who are constantly being referred by optometrists to general practitioners for their attention.

The welfare of the patient demands the cordial cooperation of the optometrist and the physician. You will find the ethical optometrist glad to cooperate fully and skillfully with you to the benefit of your patients.

We hope you are personally acquainted with the optometrists of standing to whom you can refer patients. If you are not, a line to the Optometric Society or a call will bring you a list of ethical optometrists of standing.

Louisville Optometric Society
Starks Building.

Dr. Gaylord C. Hall, Louisville, moved that a Committee from this Section be appointed by the President to bring this letter to the attention of the House of Delegates at the coming meeting of the Kentucky State Medical Association, and expressed the opinion that this action would result in having the Secretary of the State Board of Health take steps to restrict some of the assertions made in the letter.

Dr. D. M. Griffith, Owensboro, seconded Dr. Hall's motion. He also expressed the view that this would defer consideration of the matter for nearly six months and that in the meantime many more such letters would be sent out and moved, as an amendment to Dr. Hall's motion, that the

Kentucky State Medical Journal be requested to give state-wide publicity to the matter through its columns.

Dr. F. C. Thomas, Lexington, who said that Lexington physicians had received a similar letter from a Lexington optometrist, moved as a further amendment to Dr. Hall's motion that a Committee of three Louisville members of the Section be appointed to wait upon Dr. McCormack, Secretary of the State Board of Health, and endeavor to have him immediately take steps through the columns of the Journal to counteract this sort of propaganda.

Amendments offered by Dr. Thomas and Dr. Griffith were accepted by Dr. Hall, and upon being put to vote the original motion with both amendments was declared carried. The President appointed on this committee: Gaylor C. Hall, M. D., Louisville; A. L. Bass, M. D., Louisville; Walter Dean, M. D. Louisville.

There being no further business before the Section, the Scientific Program was resumed as follows:

Histopathology of the Nasal Accessory Sinuses, by Jos. D. Heitger, Louisville.

Incipient Senile Cataract, by Charles K. Beck, M. D., Louisville. Discussion by Drs. F. C. Thomas, Lexington, Adolph O. Pfingst, Louisville, Jos. D. Heitger, Louisville, Walter Dean, Louisville, and in closing by the essayist.

Ocular Arteriolar Sclerosis, by Claude T. Wolfe, M. D., Louisville. Discussion by Adolph O. Pfingst, Louisville.

Nasopharyngeal Fibroma, by W. R. Pryor, M. D., Louisville. Discussion by Drs. Gaylord C. Hall, Louisville, Shelton Watkins, Louisville.

The President stated that owing to the lateness of the hour and the small number remaining in attendance it would be unfair to present the final essay on the program, "Chronic Otorrhœa," by Gaylord C. Hall, M. D., Louisville. It was moved, seconded and carried that Dr. Hall's paper be given first place on the program for the 1936 meeting.

The Section adjourned at 5:15 p. m.

F. C. THOMAS, Secretary.

Gastrography in Diagnosis.—Kolt and Scholtz were able to demonstrate by means of gastrography that in diseases of the biliary tract the gastric contractions increase following the ingestion of butter, while in other disturbances, such as ulcer and catarrh, the movements of the stomach cease entirely. This is helpful in the differentiation of the two groups of disorders.

ORIGINAL ARTICLES

PRESIDENT'S ADDRESS*
CEPHALALGIA AND SOME OF ITS CAUSES

A. L. Bass, M. D.

Louisville

Headache is one of the most frequent symptoms of patients visiting the specialist in Ophthalmology and Otolarnygology. I believe in practically every instance, after a careful and painstaking examination, we should discover the etiological factor or factors, and if not within our bounds, we should direct them to the proper specialist. One big reason for my choosing this subject is the many patients coming to us with their own diagnosis of Sinusitis, having been treated for Sinusitis, expecting to be operated upon or in a good many instances they have already been operated upon without relief.

Only recently a young man came in with a history of pain in temples and occiput for six to eight months. He was told by three or four general practitioners and one specialist, that he had sinus trouble and there was no cure for him. His history pointed to his eyes, and after examination of nose, pharynx, and sinuses, I told him I wanted to go over his eyes, that I couldn't see anything wrong with his nose, pharynx or sinuses to account for his pain. His refractive error corrected and the wearing of the proper glasses, relieved his pain entirely.

Shambaugh, Hajek, Skillern, Baum, and others have brought to our attention that far too frequently the sinuses have been operated upon when the pain was due to some other cause and came from some other source. There is quite a tendency to assume that every obscure head pain is of sinus origin, and to forget that Sinusitis may exist without pain. The degree and severity of pain is not a reliable index as to the seriousness of the disease. The absence of pain in sinusitis proves nothing but the presence is helpful in making a diagnosis. Some cases having pronounced pain will show a small amount of pathology, while a great many will have marked pathology and little or no pain.

Baum in a recent article brings out the importance of allergy. He states that 27.7 per cent of all patients coming for rhinologicl complaints, have some form of allergy; and 89 per cent of these will show manifest-

*Read before meeting Eye, Ear, Nose and Throat Section, K. S. M. A., Louisville, May 6-7, 1935.

ations in the nasal mucosa. This bears out my contention and belief that I have had for some time, and have stated before this society, that one could look into the nose and tell whether the patient was allergic or not, in the vast majority of instances.

Pain, as it relates to the different sinuses, may be taken up in brief. It may be constant or periodical, neurologic, forcing, or reflex in type, depending upon whether it is an acute or chronic infection. In acute frontal sinusitis, the pain is in the frontal area, constant, may radiate to the temple according to the severity and amount of infection, producing pressure within the sinus. It is worse in the early morning, wearing off to a great degree, if not entirely, around noon. so called "sun pain," unless sooned relieved by shrinking of the mucosa in the middle fossa, relieving the pressure from within the sinus.

In chronic frontal sinus involvement, there is usually no pain, unless there is an acute exacerbation of the old chronic infection. The ostium may become obstructed causing a damming up of the purulent material, otherwise there is no pain because the nerve terminals may have become non-sensitive from the chronic toxemia. Some of these patients may have a sense of fullness on bending over, or from some outside irritant such as smoke. One of my patients gets a sense of fullness with pressure pain when he imbibes in alcoholic beverages.

The vacuum headache made famous by Sluder, I believe to be an entity, but in so far as there is a closure of the frontal sinus ostium and a consumption of the oxygen present, which is relieved when the patency of the ostium is re-established. I have never found anyone of the many to whom I have talked, who found this condition existed as much as Sluder would have us believe. On the contrary we owe him an everlasting debt of gratitude for bringing to our attention the importance of the sphenopalatine or Meckel's ganglion. When one knows its nerve supply, its ramifications and associations through its sensory motor and sympathetic fibers, it is not much wonder that we do not relieve most any pain which exists above the shoulders by cocainizing the ganglia

Pain from acute anterior ethmoiditis, when it exists per se, or in conjunction with an antrum or frontal sinus infection, causes an additional discomfort at the root of the nose or in the temporal region. If there is an infection in the posterior ethmoid cells, there is pain relative to the root of the nose and parietal region. If there is an infection in the sphenoid sinus in conjunction with the posterior ethmoid involvement, which exists in a great many cases, there is an additional location of pain relative to the sphenoid which is usually in the occiputal region radiating to the mastoid area and deep boring pain twixt the eyes.

I have had two patients with an involvement of the sphenoid sinus solely. I have yet to find anyone who has had a similar experience.

In acute antrum infections there is usually pain in the antrum, with a sense of fullness, tenseness or a severe pain. Sometimes being so severe that patients will say the whole side of head hurts if only unilateral. On three occasions I have had patients to have pain in the pre-auricular gland. There is usually tenderness on pressure. In chronic antrum infections the pain is usually in the antral area and over eye toward inner canthus, simulating frontal sinus pain. Frequently the pain is only at the frontal sinus area. I have at present a patient with a primary antrum infection of six weeks' duration, whose sole complaint is a dull pain at the back of eye on the side involved.

Now for a few pains due to other causes than sinus involvement.

First, I wish to pay my respects to Dr. Barnhill for bringing to our attention the importance of the fifth nerve and its relation to headache. Some of you recall the "Importance of the Fifth Nerve," as his subject before this Society when he was our guest speaker not so long ago.

The fifth nerve being the largest cranial nerve and being the sensory nerve practically to every thing above the shoulders, and what it doesn't supply, it has associate fibers: one can readily appreciate its importance in headaches. Acute infections in the early stages are nearly always accompanied with headache due to toxemia; such as influenza, meningitis, encephalitis, pneumonia, typhoid fever, and the exanthemata. High altitudes produce a band-like headache with a certain amount of unstableness. Various strain of some occupations produce certain types of headache. There is headache in the diabetic due to faulty metabolism of carbohydrates. The strain of modern life with the "helter-skelter" pace, produces certain types of headache, which I believe are generally accompanied with some endocrine dysfunction. Mithoefer brings to our notice the importance of the hypertonic muscles of the neck. He states that some people with hypertonus acquire severe headaches on the slightest exertion. There are subacute and persistent cases of naso-pharyngitis which are associated with pain in the neck and occiput.

HEADACHES DUE TO TOXEMIA FROM FOCI INFECTION

All of us have seen many headaches, relieved of pain by removal of abscessed teeth and septic tonsils. Toxemia of the intestinal tract. I recall a patient being treated twice a week for six months for sinusitis without relief. She had a constant dull pain twixt eyes at root of nose. Examination showed no evidence of sinusitis. There was congestion of the nasal mucosa. Urinalysis showed a four plus indican with a total acidity of 120. A catharsis with alkalinization relieved her pain within forty-eight to seventy two hours. Another patient just recently came to me complaining of general headache and volunteered the information that as long as he kept his intestinal tract clean there were no headaches.

Endocrine dysfunction produces certain types of headaches. We should ever be on the alert and try and place them in the field to which they belong. I refer to the menopause, menstrual disorder, ovarian dysfunction, pituitary and thyroid disturbances. Stevens stresses the headache occurring during menopause, which is usually parietal or frontal, dull in character, which may occur three or four times a week aggravated by fatigue or nervousness, accompanied by cold hands and feet, vertigo, subnormal temperature and lowered metabolism. These cases are much benefited or relieved by the administration of ovarian or thyroid extracts according to the indication.

Pituitary gland dysfunctions may produce a headache that is paroxysmal or constant, boring, bitemporal and associated with drowsiness. The pain is relieved when the patient lies down, only to recur when sitting up. Functional hyperplasia produces pain in the frontal region: bitemporal and behind the ears. Bitemporal hemianopsia is one of the chief aids in diagnosis. Cerebral aneurysm produces a pain that is throbbing and rhythmical in character. Hypertension with chronic Bright's disease, causes a general headache. There may be drowsiness, dyspnea, nausea, according to the severity of the condition, and the fundi frequently show changes and many times, in making a routine ophthalmoscopic examination, it has been the means of my first conveying to the patient the serious nature of their condition.

Migraine occurs as a severe pain which is unilateral. It occurs at irregular intervals over a period of years. The pain is sharp, forcing and radiating, located in the upper temples, side of head and neck. Its intensity increases, until there is nausea, vomiting, followed by a big relief. Migraine occurs more frequently in women than in men; is thought by some to be a cerebral angiospasm. Its etiology is not clear, but I believe there is a hereditary tendency, because a good many patients have given a family history. At the same time the patient should be examined thoroughly and if there is any pathology present, it should be eradicated; because one never knows how much relief is going to be given.

When the headache is obscure, general, with sense of pain, or band-like around the head, worse at night, always be suspicious of syphilis. A patient with history of dull pain in right shoulder and knee for six months, headache at night, blood pressure, blood count and urinalysis normal, had been to a surgeon who wanted to operate on her for gall stones. Two neurologists had treated her without relief. I felt that she had had everything done except a Wassermann, which returned four plus. Let's not forget the uveal tract inflammations and glaucoma, as factors in headache. Errors of refraction, especially hypermetropia, muscle imbalance. To make the long story short, I will simply say that pains referable to the eye condition are either in the eye, over the eye, in the temple or occipital region, according to the nature of the abnormality. If there is an error of refraction or muscle imbalance it is generally made manifest with close work and gets worse as the day progresses.

Pain relative to the ear is generally unilateral unless both are involved. In some instances the pain coming from the ear may not be in the ear at all, but in the side of the head or back of the eye. When there is pain in the ear or mastoid region with no apparent involvement in that area, let us never forget to look for an impacted third molar. If in a youth, see if they are cutting a tooth.

Brain abscess may occur without pain; but pain is usually present. I have seen more than one case of frontal lobe abscess when the patient had never had a pain; a choked disc was the most reliable symptom. The fundi should be examined in practically all cases of intra-cranial involvement. Brain tumors produce pain from intra-cranial involvement. Brain tumors produce pain from intra-cranial pressure putting tension on the dura which signal is conveyed by the fifth nerve. The pain may be periodic and gradually increasing in intensity, depending upon the size, growth and location of the tumor.

Tumors in the cerebella pontile angle usually cause vertigo, nausea, associated with deafness on the side involved. Other symp-

toms associated with tumors of the brain are unequal pupils, disturbed reflexes, drowsiness, sleeplessness, irregular slow pulse, mental disturbance and convulsions.

This is a brief summary of some of the many causes of headache, and I want to close with a plea for a careful and painstaking examination of all patients afflicted with headache, doing only that which is necessary, and keeping our specialty on the high plane where it belongs.

THE PROS AND CONS OF JUGULAR LIGATION IN LATERAL SINUS THROMBOSIS*

Lyman Richards, M. D.

Boston, Mass.

Like the boys and girls depicted by Private Willis in "Iolanthe," doctors are very apt to be "either a little liberal or else a little conservative." In few surgical problems is this variation in attitude more clearly demonstrated than in that of ligation of the jugular vein for the treatment of lateral sinus thrombosis. There are those, who, frankly in the majority, regard this procedure as an almost routine one in the presence of an established thrombus, while other rarer and bolder spirits maintain that ligation is seldom if ever indicated, going even so far as to hint that the occlusion of the main venous channel from the head may, by occasioning local stasis, propagate to other parts, the very infection it was designed to check.

It is the intent of this paper to inquire into this question, first on the basis of an examination of a large number of reports in the literature of the past 20 years, particularly of those in which certain authors have collected comparative statistics of cases treated by ligation and non-ligation and second, on the basis of the author's own experience with this problem during the past ten years.

Since 1880, when Zaufal first advocated the procedure of jugular ligation to isolate an infected clot in the lateral sinus from the general circulation, this operation has been practiced innumerable times, with what percentage of successful outcomes no man can determine. The literature is replete with case after case of its application to all sorts and varieties of clinical picture from the mildest form of phlebitis to the more virulent examples of pyaemia and blood stream infections. In many of these cases thus recorded, the patient recovered either promptly, or after a most stormy convalescense; in many another instance, the patient died. Almost without exception, jugular ligation in these reports was only a part of the operative procedure, and was accompanied, preceded or followed by mastoidectomy, an exposure of, or incision into, the lateral sinus, or a removal of an actual thrombus from the lumen of the vein. One gathers from these reports the firm opinion of the operators that ligation was a most important factor in the instances when the patient recovered, and that when it failed of success, the fault lay largely in the delay in its application. Only rarely, up to within the last five years, does one find an author who in any way questions the advisability of ligation, much less, one who raises the point of its being a disadvantageous procedure. Nevertheless, there have, of late, appeared certain arguments to support this latter point of view, to such an extent as to warrant an examination of the question in a thoroughly impartial way, with the hope that the value of ligation may rest squarely on its actual merits, and not on a traditional enthusiasm for it which is one of the heritages of modern otological surgery.

In order to adequately understand the underlying conditions for which ligation is commonly undertaken, it is important to discuss briefly the pathology basis on which rest phlebitis and thrombosis of the lateral sinus. There are commonly recognized two distinct forms of mastoid infection, each of which may, under certain conditions, be complicated by an extension of infection to the lateral sinus. In one of these, so-called coalescent mastoiditis, there is a gross breaking down of the intercellular partitions and a destruction of bone which progresses until the plate overlying the lateral sinus is destroyed by direct contiguity of tissue. In defense against this progressive advance, the external coat of the sinus throws out granulations. These may be able to check the advancing infection, and thus protect the intima from harm, or the process may progress by extravascular pathways until the intima is injured and there is found at the site of the injury a local thrombus. This thrombus may extend to the point of producing a complete occlusion of the vein lumen or it may constitute a smaller or so-called mural clot, attached to the vein wall at the site of injury. The ends of such a clot are frequently sterile while the central portion may be grossly infected.

In the second, or so-called hemorrhagic type of mastoiditis, the process advances in an entirely different manner. There is no coalescent bone destruction and no involvement of the sinus wall by direct con-

*Read before meeting Eye, Ear, Nose and Throat Section, K. S. M. A., Louisville, May 6-7, 1935.

tiguity. Instead, there occurs a terminal infection in the small venous channels supplying the mucosa of the mastoid cells. This infection spreads by a progressive intravascular thrombosis until there is formed a clot reaching into the lateral sinus itself, and, unlike the first or coalescent type, showing no change in the external coat of the vein. It is this form of thrombosis which is most feared by otologists, since it is less firmly attached to the intima and hence more likely to break off and be carried to other parts of the body.

Either the first or the second form of phlebitis or thrombosis is amenable to a series of progressively more extensive operations, according to the operator's opinion as to the degree of pathology present, and the indications for its treatment. Heading this list is the simple mastoid operation, applicable to either the coalescent or the hemorrhagic types of infection and designed to eradicate the inciting cause before progressive extension of the infection involves the lateral sinus. This procedure may include exposure of the sinus wall, first with a view to breaking up the pathologic extension and second in order to inspect the sinus for granulations or possible intravascular thrombosis. In the event of the suspicion of the existence of such thrombus, the further step of incision of the sinus wall may be added. Through the incision, the vein lumen may be inspected, the presence or absence of a true thrombus may be confirmed, and the clot may be evacuated by any one of several methods at the discretion of the operator. Finally, one may or may not feel that ligation of the jugular vein is an important or indispensable additional procedure, either before any of the above procedures have been executed or as a supplementary operation after the completion of any or all of them.

The one argument most commonly urged in favor of ligation is that it isolates the source of infection from the general blood stream. It has been argued that it in no way tends to alter the favorable course of the case and that it puts no added burden on the patient. Operators who favor it have repeatedly called attention to the fact that the additional ligation takes only a few minutes and is easy for the average surgeon. Finally, one sees recorded time and again the opinion that one should be freed of any self-reproach, criticism or condemnation, when the case does not recover, in which case one may be consoled by the fact that everything possible was done.

It is beyond all question that numberless cases of sinus thrombosis have recovered after jugular ligation with the result that the operator can scarcely conclude otherwise than that ligation had a valuable, if not predominating part in the recovery. The cardinal medical fallacy *"post-hic, ergo propter hoc,"* is never in more danger of creeping in than in this question of the real value of jugular ligation for sinus thrombosis. Nevertheless, a successful outcome naturally leads any operator to repeat a procedure which has already brought him success.

On what grounds, then, do those who from time to time raise their voice against ligation, make their claims in the face of the general popularity of the operation? First, there are the numerous cases of symptomless thrombosis, discovered by chance during a mastoid operation, indicating that at times at least, Nature is quite capable of walling off an infection in the vein without any help from the surgeon. On this fortuitous help, of course, one could never safely rely, but it indicates that thrombosis in and of itself does not necessarily lead to septicæmia.

Second, numerous cases of pyæmia have been seen to follow jugular ligation. Meltzer, in a series soon to be reported, showed that pyaemia was four times as common after ligation as before it. This is not to be interpreted as indicating that ligation predisposes to dissemination of infection through the blood stream, although one might easily defend this point, but it clearly indicates that ligation cannot be relied upon to check the entrance of organisms into the blood stream. This point of view is strongly supported by those authors who call attention to the nature of the collateral venous circulation of the head. Examination of the anatomy of this circulation makes it clearly apparent that a ligation of the internal jugular vein, even above the entrance of the facial, does not block off the superior or inferior petrosal veins, or the emissary, or the posterior condyloid vein. Through any of these, infection may spread, through extensive anastomosis, to all the other various channels of the head, via the basilar and cavernous sinuses. It is, for instance, quite possible, with the internal jugular ligated, to inject all of the cranial sinuses via the external jugular vein.

If, then, say the opponents of ligation, such collateral circulation is present, may not ligation tend to provoke a retrograde thrombosis in these collateral vessels and, by interruption of the major venous return

from the head, produce infection in the endocranium which might otherwise not occur? This is a difficult question to settle but the not infrequent cases of meningitis and brain abscess complicating sinus thrombosis and jugular ligation give some weight to this argument.

In the effort to obtain impartial facts likely to throw light on such honest differences of opinion, one seeks inevitably for reported series of comparative figures large enough to permit the drawing of reliable conclusions. The classical figures quoted in this connection are those of Korner. He summarizes a large group of cases of otitic sinus phlebitis, but does not specifically state in how many instances a true organized thrombus was found. His figures are as follows:

Treatment	Total	Cured	Pct. Cured
Sinus opened without ligation	132	77	58.3%
Ligation before opening sinus	94	56	59.6%
Ligation after opening sinus	69	38	55.9%

It is quite clear from this summary that there was little to choose from the standpoint of end results between any of these methods though it must be conceded in the light of our present knowledge that a mortality of over 40 per cent in all instances is far higher than would be acknowledged by most otologists. Certainly there is no preponderance of evidence for or against ligation. As Korner himself puts it, "It is best to adapt the method and extent of the operation to the findings in each case. To ligate the jugular vein in all early and late operations for thrombo-phlebitis of the sinus as a matter of principle seems unjustified according to the number of recoveries without ligation."

Unquestionably, one must recognize in any such group of figures the possibilities of differences in the severity of infection, and realize that the non-ligated cases may not have been as sick as those in which the jugular was tied. In all such circumstances, it is well nigh impossible to collect absolutely parallel series which differ only in the single factor of handling of the jugular vein.

The figures of Krepusca, who analyzed 295 cases of sinus phlebitis and thrombosis, are still more interesting, and tend to throw the balance of success more directly in favor of non-ligation.

It will be noted in the table below that the results of ligation are quite different from those cited by Korner. Here the mortality, both in phlebitis and thrombosis, is considerably higher in the ligated than in the non-ligated cases. Again, however, it is most important to call attention to the fact that the severity of illness in the individual patient must be taken into account and that those patients on whom ligation was performed may have been far sicker and hence more likely to die under any form of therapy.

A somewhat different arrangement of these figures throws a little additional light on the situation.

In a total of 132 ligations, there occurred 74 deaths, a mortality of 56 per cent. In 163 instances of non-ligation, there were 25 deaths, or a mortality of 15 per cent. On this basis, one could scarcely urge ligation as a reliable factor in the reduction of mortality. If, now, one segregates the cases into those of phlebitis and those of thrombosis, we find that among 147 cases of phlebitis, 23 were ligated with a 30 per cent mortality, while 124 were not ligated, with a mortality of 10 per cent. This finding would tend to justify the opinion that whatever the situation in the presence of true thrombosis, ligation is not indicated in simple phlebitis of the vein wall. Nevertheless, one sees not infrequently preliminary jugular ligation followed by incision of the sinus wall with no other result than a gush of blood from a vein which shows only thickening of its wall.

In respect to true thrombosis, these figures yield still more interesting data. Of 148 cases of thrombosis, 109 were treated by ligation with a mortality of 60 per cent while 39 were treated without ligation with a mortality of 33 per cent. A summation of all cases yields the fact that 19.6 per cent of

Results	Phlebitis	Thrombosis	Total
Cured (ligation)	16 or 5%	42 or 14%	58 or 19%
Cured (non-ligation)	112 or 37%	26 or 8%	138 or 46%
Totals (cured	128 or 43%	68 or 23%	196 or 66%
Died (ligation)	7 or 20%	67 or 22%	74 or 25%
Died (non-ligation)	12 or 4%	13 or 4%	25 or 8%
Totals (died)	19 or 6.4%	80 or 27%	99 or 33.5%

Percentages based on total of 295 patients.

them were cured with ligation and 46.7 per cent without it.

In the author's own limited series of 25 cases of thrombo-phlebitis, seen on his service at the Children's Hospital in Boston, 19 were treated by ligation with a mortality of 37 per cent, 6 without ligation with no mortality. Obviously, this is too small a series from which to draw any reliable conclusions, but it is nevertheless suggestive.

A review of the ligated cases covers every range of pathological process in the sinus from the mildest phlebitis to complete and sometimes extensive thrombosis. In retrospect, one is impressed with the fact that in several instances the decision for ligation rested on nothing more than the surgeon's anxiety lest in the face of symptoms of sepsis, he omit a procedure that might possibly be of benefit if thrown into the breach. Certain cases were ligated in which the sinus was not even exposed and among these were, strangely enough, some of the most rapid and striking recoveries. On the other hand, in several instances ligation was followed by prolonged sepsis with metastatic abscess and, as noted above, an occasional fatality. In view of the results of treatment of the six cases without ligation, each one of which made an uneventful convalescence, the author cannot escape the feeling, perhaps unwarranted without more pathological evidence, that had all the other nineteen cases been similarly handled, the mortality would have been appreciably lower. In this series, the six non-ligated cases were equally as ill as the average in the other nineteen so that the comparison is, in this respect, a fair one.

Brunner has discussed the question of so-called post-operative thrombosis. By this is designed the situation in which, at a previous mastoid operation, no thrombus was seen, and normal vein wall exposed, but in which, after a given time interval, signs and symptoms of sepsis appear with secondary discovery of a thrombus at the site of the previous exposure. While no one could justly claim that the sinus exposure was the cause of the subsequent thrombosis, nevertheless, there are certain facts which raise the question as to whether a premature operation may not, in some way, have initiated the thrombus formation. If mastoid exenteration is performed at a time when peripheral thrombosis is taking place in the terminal venules supplying the mucous membrane, it is possible that operation in the early stages opens up still larger venous channels which, becoming themselves thrombosed, pass the infection on until it reaches the lateral sinus. Certain it is that this latent or post-operative thrombosis is frequently seen to follow so-called hemorrhagic mastoiditis, of which it is regarded as a frequent and more or less likely complication.

The latest opponent to jugular ligation is Dixon who pleads for a conservative management of thrombo-phlebitis according to the extent of the pathology present. He feels that simple mastoidectomy will be sufficient in many of the early cases, and reserves the succeeding procedure of exposure of the vein, incision of the vein and removal of the infected portion of the clot, for the more extensive lesions. He opposes jugular ligation on the ground that the extension of the thrombus is always retrograde and away from the heart, and hence ligation is an unnecessary and illogical procedure.

Such a question as the advisability of ligation is difficult to settle with any precision. One will always encounter such radicalism as is evidenced by the dictum to "tie as soon as temperature goes up after mastoid operation" and such conservatism as expressed by those who say they would never ligate the vein. Personally, I am so in accord with the conclusions expressed by Rott and I cannot do better than quote a fair summary of the facts as I have personally observed them.

1. The only indication to be met in the treatment of lateral sinus infection is the prompt removal of the infected area, whether that area is in the mastoid cells, the sinus plate, the wall of the sinus or inside the lumen of the sinus.

2. Ligation of the jugular vein does not prevent absorption of the toxins and bacteria into the general circulation and hence is a superfluous procedure.

3. Ligation should be reserved for definite vein infection and then should be accompanied by resection.

Amidopyrine and Granulocytopenia.—Herz points out that the increase in the prevalence of granulocytopenia closely parallels the increase in the use of amidopyrine. The dangerous character of amidopyrine being established beyond any reasonable doubt, it should be strictly banned by the medical profession. When anodynes or antipyretics are indicated, acetanilid is a safe drug, which should be given in therapeutic doses, best combined with caffeine and potassium citrate. An alternative but less efficient drug would be acetphenetidin. By using the safer antipyretics, there is no doubt that greater efficiency will be obtained and granulocytopenia and other toxic phenomena now known to be caused by the dangerous pyrazolon group of drugs (amidopyrine and antipyrine) will be eliminated.

AN UNUSUAL CASE*

Case Report

J. D. Williams, M. D.

Ashland

I have to report a case the like of which I have not seen or heard of before in the more than twenty years of my experience in Ophthalmology and because to me it is one of such extreme rarity it is justified that it be brought to your attention.

The diagnosis, as you will see, was made only after a considerable time and then by a process of tedious elimination in which I was greatly aided by the patient, an individual of intellectual attainment, to whose helpful alertness I gladly testify.

Had not a strikingly similar set of symptoms presented themselves within the past few months, of a wholly different etiology, however, it is unlikely this tale would ever have been written.

The patient, male, age 34, business executive, first presented himself March 5, 1932, complaining of the right eye. There was a mild degree of conjunctival injection with some purulent discharge, lachrimation, slight chemosis, the diagnosis being tentatively "pink eye," and the condition clearing up within a few days under the usual treatment.

Ten days later the left eye began a similar syndrome except that all symptoms were more annoying and the former treatment having been used with no benefit he again consulted me. There was then, plus the former symptoms, a noticeable ptosis, marked engorgement of the conjunctival and scleral blood supply, marked chemosis, lessened freedom of bulbar excursion, pupils normal, reacting both to accommodation and convergence. Tension normal, cornea clear and no pain. As a precaution against possible iris involvement, which tissue was wholly normal, and for the benefit of a more satisfactory deep examination, atropine was used with a resultant wide and round dilatation of the pupil. Careful examination disclosed a complete absence of any pathology in the media and fundi of both eyes, nor was there a visual deficiency beyond that due to secretion. Smears and cultures were repeatedly made which were negative, except as to the usual Xerosis and Staphylococcus organisms, consequently the whole gamut of drops was used, including Ethyl Hydrocupreine, this last in desperation, despite the negative findings, all with no noticeable good effect. Having seen many catarrhal conditions somewhat similar in symptoms due to nasolachrymal obstruction and there being delayed transmission of the staining fluid the punctum was dilated and irrigations with a variety of solutions carried out for several days, with particular use of zinc and adrenalin.

On the 16th the pre-auricular nodes became swollen and hard with extension to the submaxillary on that side, the only discomfort then being that associated with wide opening of the mouth. The teeth and gums were given careful attention, the sublingual, epi-pharynx, oro-pharynx, tonsils, and laryngeal tissues were all cleared of suspicion as were the nose, the accessory nasal sinuses and ears. Allergy was considered since the nasal mucosa was of that type, and a diet free from fats, wheat, meats, etc., was prescribed, with no betterment. March 20th, the patient developed a moderate hyper temperature which continued. March 23rd there was an acute rhino-pharyngitis with much exudate, a sharp chill, temperature 102.5, pulse 120 with hemolytic streptococcic invasion, which was now evident on smear and culture. Tularemia was ruled out and since there was not the slightest palpebral induration nor ulceration, suspicion of tuberculosis did not obtain.

On the day following there was a different feeling about the throat, along with some relief, but a severe cephalalgia developed, particularly at night, and on the 28th, a period of twenty-three days from the first symptom in that eye, a rash appeared on arms and forehead and to a less degree on the body. These resembled macular and papular secondaries and within another twenty four hours mucous patches and epitrochlear nodes were found. The application of serology made the diagnosis definite and intensive anti-leutic therapy produced gratifying results, with finally a cure. No other primary lesion could be found, hence the inevitable conclusion that it was in the tear duct.

Having had the experience mentioned 2 1-2 years before, the recent case in the person of a physician, in that the objective symptoms were very like those of the other patient, up to a certain point, I was given several anxious days until a Morax-Axenfeld infection was determined, with rapid recovery. Lloyd recently said, in effect, that in every patient one may very properly have a specific interest. Osler: That he who knows syphilis knows medicine. Even Caesar's wife in this day might hardly be above suspicion.

*Read before meeting Eye, Ear, Nose and Throat Section, K. S. M. A., Louisville, May 6-7, 1935.

DISCUSSION

F. C. Thomas, Lexington: Dr. Williams did not say anything about a Wassermann test, whether it was positive or negative, or even whether it was made. There were several points mentioned in his report that would strongly suggest lues to me. The ptosis and lack of mobility in the excursion of the eye-ball, with a lymphangitis and, appearing later, an intractable chronic conjunctivitis—if I had to make a guess at the diagnosis it would be syphilis.

TRAUMATIC OSTEOMYELITIS OF FRONTAL BONE COMPLICATING PANSINUSITIS, CASE REPORT*

A. L. Bass, M. D.

Louisville

The patient, age 19, was first seen by me on May 29, 1934.

History: Struck center of forehead against door, middle of April, 1933. Began to swell, have headache at site of injury within two weeks. Local doctor opened abscess which continued to drain. August 5th, about two and a half months after injury, a general surgeon operated upon him. Wound continued to drain and on January 7th, about five months later, another general surgeon attempted to close the wound. Examination showed hole in center of forehead about an inch in diameter discharging thick pus.

Nose: Both middle meati were filled with polypi and pus. Smear from pus in forehead—streptococci. Wasserman, negative. R. B. C. 5,660,000; Hg. 100; W. B. C.. 12,720; (Polys. 74, Seg. 59, Sep. 15, Lym. 23, Eos 3). X-ray examination showed pansinusitis, bilateral. Tonsils three plus follicular; teeth negative.

Treatment: June 5, 1934 a Caldwell-Luc and intra-nasal ethmo-sphenoid was done, right side. June 12, a Caldwell-Luc and intra nasal ethmo-sphenoid was done on left side. June 22, 1934 an external ethmo-frontal was done, right side. July 11, an external ethmo-frontal was done on left side. Judy 21, 1934, tonsillectomy was done. August 27, 1934, opening in forehead was closed. Skin was dissected from subcutaneous tissue for some distance from edge of wound. The upper edge of subcutaneous tissue was brought under inner surface of lower edge for about one-half inch, by three mattress sutures of plain cat gut. The lower edge of sub-cutaneous tissue was stitched to outer surface of upper layer of interrupted cat gut sutures. The wound was closed with interrupted linen sutures. The intra-nasal rubber tube drains were left in situ for about ten days after the forehead opening was closed.

*Read before meeting Eye, Ear, Nose and Throat Section, K S. M. A., Louisville, May 6-7, 1935.

DISCUSSION

Lyman Richards, Boston, Mass.: This case very closely parallels one that I had several years ago, in an elderly woman who had a typical fistula in identically the same location as in Dr. Bass' case. Feeling that I was dealing with a chronic osteomyelitis I attacked it in radical fashion and attemped to eradicate the diseased bone. It then developed that the patient had a coincident chronic pan-sinusitis. Reviewing the case in retrospect, I believe it would have been better to have let the fistula alone and treated the sinusitis. As Dr. Bass has pointed out, in many cases it turns out that all that is necessary is to eliminate the sinus infection, and then with the removal of even a minimum amount of diseased bone in the region of the fistula it can be closed with the same excellent result that Dr. Bass has obtained. Where you have a localized infection in the bone itself coincident with and secondary to chronic sinus infection, I think the sinus infection should be attacked first and the fistula secondarily.

Jos. D. Heitger, Louisville: I recall a case treated in the County Hospital in Los Angeles a year or two ago of a boy, about fourteen years old. He had been suffering from a slight cold and got out of bed one night to go to the bath room and struck his right forehead against the bath room door. Four days later he developed a severe swelling over the right frontal region and was seen by a local physician who referred him to the County Hospital where his right frontal sinus was operated on. He appeared to be getting along very nicely when he suddenly developed symptoms of meningitis and died about ten days after operation. At autopsy, much to our surprise, we found a large, well encapsulated brain abscess on the left side, which obviously could not have developed within the short time after he came under observation. The infecting organism in the brain abscess proved to be the colon bacillus, although it is hard to understand how a colon bacillus infection could have occurred in this location. This case illustrates what may sometimes occur following even a slight injury in the presence of a pan-sinusitis.

J. D. Williams, Ashland: Last Sunday I was called to a neighboring town to operate on a patient with a history that, about three weeks previously, he had developed a swelling in the center of the forehead, apparently containing pus. The family physician was called, made an incision in the swelling and introduced a probe to determine whether or not the frontal sinus was involved, which proved to be the case. I

made an attempt at drainage intranasally but this was not satisfactory because of an extreme septal deviation. Yesterday morning the floor of the frontal was removed, the cavity gently cureted in which process much granulation tissue was removed, and a large tube for drainage was introduced. There was annoying hemorrhage which was controlled with difficulty. Not having heard from the patient I assume he is making a satisfactory recovery.

THE HEALING OF THE TONSILLECTOMY WOUND*

Walter Dean, M. D.,

Louisville.

It would be original indeed to not identify tonsillectomies as the minor operation with major convalescence. The worse tonsil conditions are followed by the most stormy convalescences. If all things have been right, more benefit accrues to the case associated with post-operative suffering. If the date of this elective operation has been well timed, that is, the operation has been deferred until all acute, even subacute, inflammation has subsided, there is little chance of persistent consecutive hemorrhage, and healing starts at once, provided of course that the tonsils are entirely removed and the muscular walls of the cavity have not been mutilated. In local anesthesia, where much more than two drops of adrenalin is added to the ounce of novocaine, there is always the risk of delayed primary hemorrhage. Personally I use no adrenalin, preferring to face whatever hemorrhage at the time of operation. At the City Hospital, the internes use 1 or 2 drops of adrenalin to each 20 c. c. of novocaine, and they report only one or two cases a year are returned to the operating room. I consider this negligible as it is no greater percentage than cases under narcosis.

The fossa which actively and persistently bleeds after enucleation is the fossa which contains a hot tonsil surrounded by peritonsillar inflammation, and I have long felt that such a phenomenon is the result of bad timing. I have not discovered that it is a matter of diathesis. It is a local problem. So far as the healing process of the fossa is concerned, the blood letting is beneficent. I am partial to the Sluder-Beck technique, attempting it in almost 100 per cent of cases. I only fail when the tonsil is œdematous, when the tonsil will not be compressed into the ring, and the palate and tonsil region are brawny and fused tight together. There is analogy here to the frozen pelvis. The frozen pelvis is not operable, and so should we be on guard against operating a frozen tonsil. A suction cup applied to an operable tonsil will pull it out of its bed. If the tonsil will not budge from the fossa, it is not ready Such a case bleeds venomously, from many points. A piece may be left by the most practiced operator, muscles may be torn during the removal or in the procedures to stay the bleeding. How many times do I remember in my own work and in the teaching of internes, seeing a perfect fossa spoiled by sponging, the anterior pillar lying as a triangle on the tongue. It is heart-breaking to see beginning operators remove both anterior pillars with good or bad conditioned Sluder tonsillotomies. Still most of these cases shape up better than one could anticipate. Nature cannot regenerate a muscle or any muscle tissue, but the granulations seem to build up from the margins to just the right height and magically cover with epithelium. The palatoglossus muscle is of little importance. The posterior pillar is comparatively large and important. Its mutilation distorts the palate and interfers with the function of the Eustachian tube. Several cases have been observed in which the uvula and considerable palate had been removed, leaving a heavy band of scar from one posterior pillar to the other. One would suppose that functional impairment would have followed, but surprisingly none had. On the other hand, think of the beautiful fossae we have seen, beautiful for weeks, and then fusion of the pillars and asymmetrical palate, with here and there some neurosis in the throat, trivial but trying to the patient. One of my own recent cases, a month after healing, began to show a white line above the uvula which increased and the uvula became edematous. I presume the uvula will atrophy some. I have heard that the uvula sometimes disappears entirely for no discoverable reason.

Going back to post operative hemorrhage, the cases which I remember to have bled most stubbornly were those in which pieces of tonsil were left. (Parenthetically one might add the piece was left because the fossa bled so). One of our best authorities says that the old tonsillotomy bleed less than tonsillectomy. My meagre experience with tonsillotomy was in Hajek's clinic in Vienna, so I have no comparative knowledge, but the usual conception is that tonsillectomy causes less bleeding because the vessels retract into the muscle to be acted upon by muscle juice. Nasal sinus operations ooze so long because there is no muscle juice to complete coagulation. Tonsil remains certainly predispose to

*Read before meeting Eye, Ear, Nose and Throat Section, K. S. M. A., Louisville, May 6-7, 1935.

continued bleeding. I influenced internes to stick to a troublesome case just as long as the anesthetist will allow, so as not to leave a tonsil piece to heal into the wound. Certainly from every standpoint, an unoperated tonsil is less toxic than a partial removal. By partial removal is meant leaving a remnant containing any part of one follicle. This includes all diathermies personally observed.

The tonsil fossa heals by second intention like the wide operation for ischio-rectal abscess. The wound is too septic to be closed. In three of four cases in which the pillars were sutured together a phlegmonous process like quinsy resulted. Otherwise I have seen no phlegmonous pharyngitis, no laryngeal phlegmon, no mediastinitis, no thrombosis of the jugular vein, no mastoiditis. Blood clot in fossa points to an underlying present or past hemorrhage. If the hemorrhage is past, it is my best judgment to "let sleeping dogs lie."

The repair of the tonsil wound is always associated with inflammation. As soon as the bleeding stops a fibrinous exudate containing blood cells and bacteria covers the exposed necrotic cells. Under the exudate granulations form in less than forty-eight hours. The false membrane is sometimes white and sometimes dirty yellow. It would seem that surely we could do something topically to help the cause. This is debatable. One laryngologist says "Routinely do nothing but inspect for three days." My practice is to apply a part of one drop of phenol to both fossæ and then apply compound tincture of benzoin. This for adults. Nothing usually for children. Peroxide gargle probably gets rid of offensive exudate with minimum trauma. Some authorities say that bad breath is due to disordered digestion, and not to local infection. It might be due to both. It is good routine to give citrate of magnesia within twenty-four hours as swallowed blood is very upsetting. It takes three or four days for the fossa to be well granulated. This disposes of the superficial necrosis, combats infection and buries the exposed nerves. There is little to do now. The fibroblasts are knitting up the ends of the cut blood vessels.

Secondary, or infection hemorrhage is the only local complication to apprehend. It occurs rather frequently, oftener than we are informed by patients, as usually only one vessel is implicated, it is likely to be minute in caliber, and the bleeding is trivial. If the responsible infection is not curbed, hemolysis of succeeding thrombi follows and eventually the wound will bleed continuously. Should the vessel be sizable, considerable blood will be lost. The indication is to curette and sterilize the wound and not to ligate the vessel. It is good practice to routinely stay primary bleeding with gentle sponge pressure and ligate as little as possible, as ligation in a septic field predisposes to infection hemorrhage.

In from ten to fourteen days all cases seen by me have completely healed. As indicated above, the wound changes some as time goes on. The scar tissue thins and becomes more supple. Uncomfortable sensations disappear. The voice strengthens. The unusual case who "talks through his nose" due to palatal disturbance clears up in two to four months.

If the plica triangularis and the lateral part of the lingual tonsil are snared away at operation, no appearance of evil will rise to plague the operator. An enlarged lingual can be demonstrated to belong to the tongue and not to the fossa. Frequently we find masses of lymphoid tissue in the fossa or mesial to the posterior pillar in young children several years after tonsillectomy. This is due to diathesis, requires medical, not surgical, treatment.

Edward Ochsner closed a paper with the following remark, which really influenced me to select a hack subject and treat it in this simple way. "To the critical reader, the matter to which we have here called attention is of course obvious, but since modern education, both general and medical, is devoting so much of its time to the unusual, the trivial and the obscure, it becomes necessary, at least occasionally, to call special attention to the usual, the important and the obvious."

I will close by quoting a dialogue I heard last week between two internes.

First Interne: "Tonsillectomy would be a swell operation if the patient hadn't any tongue."

Second Interne: "Yes, that, and no blood."

DISCUSSION

F. W. Urton, Louisville: The first point I want to mention is the use of adrenalin in these cases. I like to use a little adrenalin in a local tonsillectomy; it helps to constrict and retract the vessels and thus aids in controlling hemorrhage.

Dr. Dean says he treats the operative wound within two to four days after a tonsillectomy. I think the fossa should be let alone at least five or six days, because during that period granulation is taking place and healing is being taken care of by Nature. Any application of pressure or sponges during this time is apt to result in breaking through the vessel walls.

The muscle juices make an excellent hemostatic. Occasionally we are called back to see

a patient who is bleeding and the first thing we employ is the pressure method, which sometimes causes the patient to vomit. The gastric juices, especially the hydrochloric acid which is always present, make an excellent hemostatic and I am always glad to see them vomit. The patient feels much better afterwards and in many instances the bleeding will stop.

R. H. Cowley, Berea: For quite a long time I have been giving all my tonsillectomy cases an injection of omnadin before operating as a foreign proteid. Of course, it is hard to evaluate the effect of this treatment, but certainly it is true that in my cases I get very little edema or local inflammatory reaction following a tonsillectomy. I have a standing order in the hospital that if on the day following a tonsillectomy the patient's temperature rises above 99.6° F., another injection is given.

In regard to hemorrhage, which occurs only occasionally in my cases, the first thing I do is to mop out the fossa to remove any clotting and then inject novocaine and adrenalin right into where the hemorrhage is coming from. That will stop it in nine out of ten cases. Sometimes it is necessary to make an application of Nonsell's solution and occasionally a suture is required. Theoretically, to introduce a needle into a fossa that is infected and inject novocaine is wrong, but practically it is right. I have been doing it for the past ten years and Dr. W. B. Chamberlin of Cleveland told me he uses the same method and has never had any trouble from it. By injecting novocaine you render the field anesthetic and make it easier to put in a stitch if that is necessary. In introducing a stitch I do not grasp the vessel, but simply pass the needle beneath the vessel, pull the stitch through and tie it.

Chas. K. Beck, Louisville: I cannot agree with Dr. Dean about "letting sleeping dogs lie." I do not recall ever having left a clot in a tonsillar fossa that did not give rise to trouble later on and it has been my practice to always remove the clots. The false membrane that forms in the tonsillar fossa after operation is one of Nature's steps in the healing process. Beneath this membrane granulation occurs and scar tissue forms and it should remain here until healing has progressed to the point where the membrane is either absorbed or abraded. Topical applications, gargles and things of that kind tend to disturb and retard Nature's healing process and, in my opinion, do more harm than good. The patient will nearly always ask, "Doctor, what shall I use for a gargle?" "Nothing," is my prescription; let Nature alone. Also, I believe more rapid healing is promoted by the use of the throat for natural purposes and I encourage the patient to eat anything that will go down the throat.

As Dr. Urton has pointed out, the muscle juices are hemostatic, and there is something else that promotes hemostasis that has not been mentioned. When the tonsils are removed there is a tendency on the part of the small blood vessels which have been cut to withdraw themselves into the muscles or tissues, and there is also a tendency on the part of the muscles which have been denuded of their covering to spastic contraction. That is one of the causes of pain following a tonsillectomy, but this contraction is a good thing because it exerts pressure upon the open mouths of the blood vessels and in that way produces hemostasis.

Jos. D. Heitger, Louisville: Dr. Dean's paper is especially interesting in that, instead of the unusual or extraordinary with which papers read before this Section are accustomed to deal, it has to do with a condition that we see every day and affords us an opportunity to review the anatomy, physiology and pathology to our advantage.

As to the time of operation in these cases, I recall an incident that happened several years ago in one of our large clinic hospitals. After the routine morning work had been done, one of the internists on the staff presented himself for examination and asked that his tonsils be removed. Assuming that he knew what he was doing his request was complied with and it proved to be quite a task, with very copious hemorrhage. Finally he went to his room with half a dozen hemostats in his mouth and only then was it learned that during the previous week he had suffered a mild attack of tonsillitis. Undoubtedly this had resulted in enlargement of the blood vessels and contributed to the hemorrhage.

In cases of this kind sufficient time should be allowed before operating for the vessels to contract and return to normal. I think it is a pretty good rule to wait three to four weeks after a tonsillitis before tonsillectomy is attempted.

S. B. Marks, Lexington: Dr. Dean spoke of making suction upon the tonsil to determine the time for operating after an acute inflammation. It is my own practice to wait four to six weeks following an acute inflammation before attempting tonsillectomy. I think we are inclined to undervalue or disregard the possible activity of organisms which have perhaps been lying in the tonsils for a period of years in most individuals, and in making suction or retraction or any other tramua in the throat, it is wise to go about it gently. I have seen several reports during the past year citing instances where mild sepsis had resulted from such procedures and I think it behooves us to be careful.

Lyman Richards, Boston, Mass.: There is a certain type of so-called adherent tonsils that we occasionally see, which are quiescent from the standpoint of bacterial activity, but which

are so firmly imbedded or held down by scar tissue from previous peri-tonsillar infections that there is no hope of their ever becoming any more mobile than they are at that particular time. I believe I am correct in assuming that Dr. Dean, under such circumstances, would not advocate any delay in removing the tonsils.

I am fully in accord with the essayist's statement that tonsillectomy should be deferred until all activity in the tonsils has ceased. Nevertheless, there are those who advocate removing the tonsils in the presence of violent inflammatory reactions in the throat, even during the height of a scarlet fever attack, claiming that no more complications result than if operation is deferred until the acute condition has subsided.

W. Dean, (In closing): I agree with Dr. Urton that just a little adrenalin improves the anesthesia property of novocaine. His point about vomiting is very practical. Vomitus seems to have a hemostatic effect, and emptying the stomach reduces blood pressure, and relieves nausea.

Dr. Cowley has taught this section many important things. Perhaps the most important is the use of convalescent serum. His technic of injecting beyond the tonsil fossa to stay hemorrhage by fluid pressure is original and has worked for many of us.

I respect Dr. Beck's disagreement about leaving a dry tonsillar clot alone. We could both be right.

Dr. Heitger's case report is an example of what is apt to happen if an acute infected tonsil is traumatized. It might have caused internal jugular thrombosis.

Dr. Mark's advice to be gentle in our technic must be followed. Some discomfort is inevitable. It is a mistake not to be frank about this.

Treatment of Suppurating Tumors of Adnexia.—Barjaktarovic treats suppurated tumors of the adnexa in the following manner: After a thorough irrigation with antiseptic solutions, the vagina is dilated by ecarteurs. The lower lip of the uterine cervix is grasped with a mouse tooth forceps and is drawn, horizontally and slightly upward, to the vaginal opening. In this manner, the posterior vaginal vault is completely exposed and easily accessible. Then the upper vaginal ecarteur is removed and the posterior vaginal vault is iodized and dried. If the cervix is drawn forward horizontally, a bend is formed in the vaginal vault that corresponds to Douglas' pouch. The puncture is made in this bend. The needle should be parallel to the uterus.

LATERAL SINUS THROMBOSIS*

W. S. Snyder, Jr., M. D.

Frankfort

The twenty-six cases reported here were operated upon at the Lakeside Hospital, Cleveland, Ohio. The cases were operated upon by several surgeons, hence there were variations in the operative technique and treatment. These will be discussed later.

The data from these cases will be discussed under several different headings. There will also be discussed the findings of other men in similar series, along with their opinions on symptomatology, diagnosis, treatment, and so forth.

Age

No age seems to be exempt. There were fifteen adults and eleven children in this series. It is true that in young children the bone is thinner and the suture lines are more open, but this does not seem to act as a predisposing factor. The lateral sinus may be bathed in pus and the intima will still remain entirely healthy. It is most probable that the incidence of lateral sinus thrombosis varies with the age of the patient to the same degree as does mastoiditis.

Sex

There is no reason to believe that sex per se has any direct bearing on the incidence of the disease. In this series there are ten females and sixteen males. The preponderance of the males is probably explained by the fact that they are more generally exposed to weather conditions which tend to lower their power of resistance.

Duration of Otitis Media Before Operation

Thrombosis of the lateral sinus is always associated with some virulent infection. Chronic infection in the mastoid cells is always associated with low virulency on the part of the organism and probably with an increased local immunity. It is only when the chronic process has eroded the bone and probably bared the lateral sinus that the pathways of infection are opened. Through these opened pathways virulent infections are enabled more readily to reach the sinus. Such infections reach the middle ear either through the Eustachian tube or through a perforation in the drum membrane. In our series, there were eight cases of long-standing middle ear disease. Here two factors must be taken into consideration:

(1) that there are many more cases of acute middle ear infection than of chronic,

*Read before meeting Eye, Ear, Nose and Throat Section, K. S. M. A., Louisville, May 6-7, 1935.

(2) that chronic middle ear disease probably sets up considerable tissue immunity as well as walling off the infective process.

The cases most subject to the disease are those which have not been infected before and which are attacked by an organism of great virulency, generally the streptococcus. When this infection follows some systemic infective disease, such as scarlet fever, not only do the mastoid cells and surrounding tissue contain no special immunity, but the general immunity and resistance of the body are at a low ebb. It is the combination of a very virulent infection with a lowered body resistance, both general and local, which makes the spread of the disease to the lateral sinus easy.

Findings at Mastoidectomy

Practically every case in this series had a mastoid in which the cells were largely broken down and filled with pus and granulation tissue. In the chronic cases cholesteatomata were found but where there were cholesteatomata there was also much pus as evidence of a super-imposed acute process.

Spread of the infection from the mastoid cells to the lateral sinus may be in either of two ways:

(1) by direct extension, and

(2) by the blood stream, generally phlebitis.

Kopetzky believes that there are two types of mastoiditis:

(1) hemorrhagic, and

(2) coalescing.

In the latter type the infection produces pus, bone necrosis and granulations. The necrosis is probably due to the pressure of the surrounding pus; the infection spreads primarily by pressure necrosis; the sinus plate is reached and necrosed; the pus escapes through the necrosed plate and so surrounds the sinus; the sinus is compressed and the walls, losing part of their resistance from the pressure, tend to become infected. The infection then spreads through the wall of the sinus and involves the intima. A clot forms on this as a protective mechanism and this clot subsequently becomes infected. In hemorrhagic mastoiditis, Kopetzky believes that the principal lesion is confined to blood vessels which supply the mucous membrane lining the mastoid cells. There is no pathology in the mastoid cells, except an intense engorgement of the blood vessels of the lining membrane. The disease attacks the venous supply of the entire mastoid process simultaneously and limits itself to the intima. Here it manifests itself by forming small thrombi. When the thrombi invade the veins of the bony intercellular walls, they produce a condition known as osteothrombotic phlebitis. From the smaller vessels the thrombi progress toward larger blood vessels and, in some cases, extend into the sigmoid sinus. In such cases there is no necrosis of the bone of the outer plate of the sinus and the outer wall of the sinus has a healthy appearance. If a perisinus abscess is present, it is due to the breaking down of a number of small thrombi or to an organism in addition to the hemolytic streptococcus. In these cases granulations are never found on the external wall of the sinus, for the point of infection is from within.

It is not believed that uncovering the lateral sinus or dura per se complicates the disease. Wounding of either is a serious accident. Two of these cases had sinuses which appeared normal at the time of operation, but which were accidentally wounded. Whether these cases would have developed a lateral sinus thrombosis if the sinus walls had remained intact, it is impossible to say. In all, seventeen cases had the lateral sinus uncovered, ten at the time of operation and seven by the disease. Probably the walls were quite necrotic at the time of operation, thus accounting for some of the ten being uncovered. There were perisinus abscesses in only three cases and the sinus plate was left intact in eight cases.

Symptomatology

Lateral sinus thrombosis may be diagnosed either at the time of the mastoidectomy or subsequent to it. It is needless to say that by far the majority of cases are diagnosed after the mastoid operation, inasmuch as practically every symptom of lateral sinus thrombosis may be caused by an acute mastoiditis. It is only by eliminating the infection from the mastoid cells that a diagnosis may ultimately be made. True, by determining the patency of the sinus by the Ayer-Tobey or Crowe-Beck tests, some information may be gained, but the sinus may be occluded and still it is possible that no infection is present. The absence may be due to congenital malformation or to a previous infection. This infection may have caused an obliteration of the sinus without being diagnosed or without presenting any definite symptoms. It is sometimes possible to make the diagnosis from the appearance and consistency of the sinus wall. When the sinus wall is dull, gray or lustreless, extreme suspicion should be aroused. If it is hard, it gives definite evidence of thrombosis, but the definite presence of a thrombosis does not demand operative procedure any more than the absence of definite proof of such thrombosis contradicts exploration.

There are certain cases in which a clot forms in the lateral sinus and either remains free of infection or the infection is of such low virulence that the patient never has any constitutional symptoms from it. Atkins says: "It is not impossible to have a normal or subnormal temperature with sinus thrombosis when the process is well walled off." Tobey says: "It is not an uncommon experience to find a definite sinus thrombosis, and occasionally a broken down sinus wall and fistula, in doing a mastoid operation, the temperature chart at no time having shown any temperature whatsoever. In a series of seventy-three cases this occurred eleven times and in three cases the sinus wall was completely necrosed."

It is the unusual case in which the diagnosis is made at the time of operation. Usually the symptoms are rather obscure and are believed to be due to mastoiditis. It is only when the symptoms fail to subside following mastoidectomy that the attention is directed toward the sinus. These symptoms may be considered as follows:

1. Temperature: No single symptom is more characteristic of the disease than the temperature variations. As the thrombus forms in the sinus, small pieces of it break off and enter the general circulation. This causes an intermittent septicemia to which the body shows a quick response. Such a reaction manifests itself in the form of a sudden chill and a rapid rise in temperature, usually up to forty or forty-one degrees Centigrade. The temperature remains at this high point for several hours and then suddenly falls below normal. The fall probably corresponds to the destruction of the shower of bacteria. Concomitant with this sudden fall in temperature, there is a drenching sweat. These elevations of temperature may vary from one every two days to three or four every day, but they usually occur about twice a day. In the intervals between the septic periods, the patient appears to be unusually well, and if it is a child it may continue to play and give no other symptoms. These periods of well-being are quite characteristic. Where the showers of bacteria are more frequent or continuous, or where there is considerable infection of the mastoid and surrounding areas, the temperature may be maintained at a high level with only slight fluctuations. In the present series twenty cases ran an intermittent temperature and six ran a septic temperature.

That there are many cases of thrombosis of the lateral sinus which are cured without operative interference or which never give rise to any definite symptoms, is well known. Day of Pittsburgh found that, in forty-five cases of lateral sinus thrombosis, thirteen and one-half per cent had been cured previous to operation. In some of the cases a sterile thrombus is formed and this is partly absorbed and partly organized. The pus may rupture through the sinus wall and through the mastoid cavity, or the amount of pus may be so small as to be absorbed. The possibility of diagnosing these cases is rather small, but, as they take care of themselves, this is not an important factor. Only those cases which cause a septicemia are of real surgical importance.

2. Headache: Persistent, unilateral headache, extending over the whole side of the head and not relieved by analgesics, is very suggestive. The pain is especially confined to the parietal and occipital regions.

3. Edema and Tenderness Over The Mastoid: Tenderness is especially confined to the region of the emissary veins, probably due to a phlebitis of the vein extending peripherally. Edema and dilatation of the veins about the mastoid tip (Griesinger's sign) is caused by the blockage of flow of the blood in the emissary veins, due either to an occluding thrombus in the lateral sinus or to thrombosis of the emissary vein itself. Where there is considerable infection of the incision and surrounding tissue, it may be quite impossible, however, to ascribe the swelling to stasis in the emissary vein.

4. Ayer-Tobey Test: This is a test to determine the patency of the lateral sinus. It is of no value in the diagnosis of mural thrombi. The test is based upon the fact that increased intracranial pressure is normally propagated through the cerebrospinal fluid system and may be measured by a manometer employed in connection with lumbar puncture. Compression of the internal jugular vein causes increased intracranial pressure with immediate rise in spinal fluid pressure. (Tobey). In normally patent sinuses this rise only occurs when both jugulars are compressed simultaneously. When one jugular alone is compressed, the blood flows through the other and there is only a slight rise of the spinal fluid in the manometer, but when one sinus is occluded and the flow of blood is stopped in the opposite jugular by compression there is an increase of the intracranial blood pressure along with the cerebrospinal fluid. Rises of less than fifty to one hundred millimeters are to be disregarded, but when the rise is above one hundred to one hundred and fifty millimeters it is almost indicative of occlusion of one si-

nus. The proof is rendered more positive if compression of both jugulars does not increase the pressure. The test is of value not only in cases of unilateral involvement, but is of especial value where both sides are suspected. It must be carried out carefully and there must be full cooperation on the part of the patient. If the patient is moving, especially crying, the test is of no value.

That the test may not be infallible is well known. Kopetzky reports a case in which the right lateral sinus has been surgically obliterated and which did not give a positive Ayer-Tobey test. Pressure on the other jugular caused the mercury to rise four millimeters and when both were compressed together the mercury rose fourteen millimeters.

5. Crowe-Beck Sign: Physiologically the principles of this sign are similar to those of the Ayer-Tobey sign. Like the latter, the test is never positive unless there is complete occlusion of one of the sinuses. One of the sinuses being occluded, pressure on the opposite jugular vein shuts off most of the return circulation from the cranial cavity. This stasis of the circulation causes a dilatation of the small venules. These may be best observed in the retinal region where the venules lie bare. This test has all the pitfalls of the Ayer-Tobey test with the additional drawback that only one well trained in retinoscopy is able to detect slight differences in the size of the venules. Where the services of an ophthalmologist are available, this test is valuable, but there is a tendency at the present time to use it only as collaborative evidence.

6. Blood Culture: The presence or absence of a positive blood culture is by no means conclusive diagnostically. Even when positive, it is impossible to say that the source of the organisms is a thrombus in the lateral sinus. Not only may it be due to other diseases entirely dissociated from any ear condition, but other ear conditions besides a venous thrombosis may be the source of the organisms. Particularly is this true of the acute streptococcic infections of the mastoid cells and the adjacent soft tissue

However, the presence of a positive blood culture is very suggestive, especially when accompanied by other signs and symptoms of thrombosis. Moreover, it identifies the type of organism with which we have to deal.

The large percentage of negative cultures does not mean that no septicemia is present in these cases. Rather, it is probably due to the short period of time during which a shower of bacteria remains in the blood stream. In most cases the bacteria are liberated in showers, rather than being continuously fed into the blood stream, and once liberated they probably do not stay in the circulation very long, but are either lodged in a capillary or destroyed. Hence, in taking a blood culture, unless it be taken just after the bacteria have been liberated into the blood stream, the specimen is very likely to be sterile. The optimum time for obtaining a positive culture is during the chill and the height of the fever. The longer the interval between the liberation of the bacteria into the blood stream, as manifested by the chill, and the taking of the culture, the less chance there is of obtaining a positive culture. To rule out a septicemia, frequent cultures should be taken and they should be taken at the optimum time.

In this series of twenty six cases the results are as follows:

Cultures taken		22
Cultures not taken		4
Negative		12
Positive	(45.4%)	10
Streptococcus hemolyticus		4
Streptococcus non-hemolyticus		3
Streptococcus viridans		1
Gram positive diplococci		
Bacillus coli		1
Staphylococcus aureus		1

It will be seen from the above table that the streptococcus is by far the most important organism. Ersner says: "The streptococcus hemolyticus is practically the only organism found in sinus thrombosis."

It is probable that reports of staphylococci are contaminations.

7. Mastoid Culture: The knowledge of the infecting organisms is always a valuable adjunct to the treatment and prognosis of the disease. It is interesting to note that about seventy-seven per cent of mastoid culture are negative. In this series of cases we had the following results:

Not taken	14
Negative	1
Staphylococcus aureus	1
Bacillus proteus	
Staphylococcus aureus	1
Streptococcus non-hemolyticus	
Streptococcus hemolyticus	4
Streptococcus hemolyticus	4
Bacillus coli	1
Streptococcus viridans	1
Streptococcus non-hemolyticus	1
Bacillus coli	
Gram positive diplococci	1

It will be seen that no organism was found in the blood culture which had not been previously isolated in the mastoid culture.

A comparison between the organisms found in the external auditory canal and those found in the mastoid cavity is interesting. Ersner says: "In comparing the relationship between the organisms found in the mastoid wound with those of the external auditory canal, we found that sixty-three per cent of the organism found in the mastoid wound are the same as those in the external auditory canal. We should be cognizant of the fact that almost one-third of the organisms isolated from the external auditory canal do not coincide with the bacteria found in the mastoid wound. Therefore, in preparing autogenous vaccines from the external auditory canal in threatening mastoid disease, we must bear this in mind." Ersner also suggests that, because of the high prevalence of the streptococcus hemolyticus, the disease might be treated by giving Dick's serum. In a series of three cases he had very good reults.

8. Other Laboratory Findings: Examination of the blood gives the customary findings of a pyogenic infection. Counts of the white blood cells vary somewhat with the fever, but show the usual increase concomitant with the severity of the infection. A differential count may be very important, especially in the case where the resistance of the body has been overwhelmed by the severity of the infection. Differential counts after the method of Von Schilling are invaluable. In the face of very low leukocyte count, the presence of a large percentage of young forms demonstrated that the protective forces of the body have been overwhelmed and augurs a bad prognosis. Where the resistance remains intact, the leukocyte count is very high with a preponderance of polymorphonuclear cells. Red blood cell counts and the determination of the hemoglobin content are quite important. This is particularly true of cases of hemolytic streptococcus infection. A fall in the hemoglobin content of the blood is especially noticeable in cases of long standing or in relatively recent cases where there has been a considerable septicemia.

Examination of the spinal fluid is of no value except in cases of suspected meningitis. If meningitis is present, the spinal fluid gives the usual findings of this disease, that is turbidity, increased cell count, positive findings for bacteria and an increase in pressure.

Interval Between Mastoidectomy And Ligation of The Internal Jugular Vein

Nine cases were ligated at the same time that the mastoidectomy was performed. This should always be done when it is possible to do so, but in the majority of cases it is impossible to make the diagnosis at this time. Unless the sinus wall is definitely broken down, unless there is definite cord-like swelling over the course of the jugular vein, or unless the sinus is hard and firm, one is most likely to conclude that the symptoms are due to mastoid disease and that they will clear up with the mastoidectomy. But when the symptoms persist following the mastoidectomy or become progressively worse, suspicion is immediately aroused. The average interval was from three to four days; the shortest two and the longest twenty-four. The following table gives the intervals:

Same Time	9
2 days	2
3 days	2
4 days	1
5 days	3
7 days	2
10 days	1
12 days	1
16 days	1
23 days	1
24 days	1

It is needless to say that the sooner the diagnosis can be made, the better the prognosis.

Order of The Ligation of The Jugular Vein: In this series of cases the jugular vein was ligated both before and after the sinus was opened. The following table shows these data:

	Before	After
Number of cases	14	9
Number recovered	9	5
Number died	5	4
Percentage died	35.7	44.4

There are many arguments for resection of the vein, both before and after the jugular has been ligated. This discussion has been ably summed up by Kopetzky as follows:

The time during the operation at which to resect the jugular vein has been a moot question. Jansen, Brieger, Korner, Richards and others recommend that the vein be resected as soon as the diagnosis of septic sinus thrombosis is made, usually before the sigmoid sinus is opened. Their reasons are: (1) the prevention of the passage of emboli into the general circulation (Gruenert); (2) the impossibility of establishing the presence of an obstructing clot below the bulk (Lentert); (3) the danger of detaching fragments which will pass into the general circulation when the surgeon is operating upon the sigmoid sinus (Schenke.)

On the other hand, Heine recommends

opening the sinus and removing the thrombus in the first place and reserving the resection of the jugular for special cases. He resects the jugular vein only when severe pyemic symptoms persist after the removal of the thrombus from the sinus. Korner holds that resection of the jugular vein is justifiable in all cases, even if no pyemic symptoms supervene.

The position held by the thrombus is of importance in determining whether to resect the jugular vein before or after opening the sinus. Thus, if the thrombus is located in the bulb and exposure of the sigmoid and the application of the Whiting's test show the thrombus to be at or below the bulb, resection of the jugular is indicated before the sinus is opened.

The following may serve as a guide in determining the time at which the jugular is to be resected:

1. The resection of the jugular is indicated before mastoidectomy
 a. In cases which come under observation late and present the picture of a coalescent or chronic variety of mastoiditis, accompanied by syndrome of the septic pyemia and an infiltration along the course of the jugular vein which is painful upon manipulation.
 b. In cases of grave sepsis wherein demonstrable pyemic metastases are present.
 c. In cases where the positive diagnosis of jugular phlebitis or primary bulb thrombosis is possible. In these cases there is an imperative demand for the prompt shutting-off of the source of infection from the general circulation. The danger resulting from a possible spread toward the endocranial sinuses is manifestly less than the risk incurred by overwhelming the general system with infectious material circulating in the blood. The Mastoidectomy is performed after the jugular resection as the patient's condition will permit.
2. The resection of the jugular is indicated after mastoidectomy and exposure of the lateral sinus.
 a. In cases where the opened sinus shows a thrombus.
 In cases where the septic thrombus and in which, after a variable length of time, symptoms of pyemia come in with or without recognizable metastases. In this group of cases, after all other lesions have been eliminated by careful differential diagnosis, the operation on the jugular vein is in order on the assumption that an undiscovered thrombus is located partially in the bulb or in one of its tributary veins. In this connection it must be remembered that fever and chills are often present for some time after the sinus has been relieved of its thrombus.
 d. In cases of hemorrhagic mastoiditis wherein the symptoms of sepsis and the reduction of hemoglobin are not halted by the exenteration of the mastoid.

Pathology of The Sinus and Internal Jugular

It is by no means always possible to determine the presence of lateral sinus thrombosis, even after the sinus has been laid bare. The presence of granulations, a peri-sinus abscess, discoloration or thickening of the sinus wall all may lead the surgeon astray. Any or all of these may lead to suspicion, but they are not absolute. Where a firm clot is present, palpatation of the sinus will reveal the presence of a hard thrombus. In many cases this thrombus will be soft, due either to its early formation or to its disintegration. Where the sinus wall has broken down, the diagnosis is easy. The presence of a blood current in the sinus may be determined by the so-called Whiting's test. After the sinus has been laid bare over a considerable area, the index finger is placed on one end of the sinus and its walls firmly collapsed. Otherwise the blood will follow after the finger and keep the sinus distended.

Patency of the sinus is often tried by needle puncture of its walls. If blood be drawn from the sinus there is considerable evidence that the sinus is not occluded. However, this does not rule out mural thrombi or thrombosis of the jugular bulb. The failure to withdraw blood does not definitely mean that there is an occluding thrombus. The point of the needle may extend only into a mural thrombus, or it may pass through both walls of the sinus. This method has the additional disadvantage that bacteria may be carried into the blood stream by the exploring needle or may enter the sinus wall through the puncture site. Hence, this method of diagnosis should be employed only in selected cases and even then its shortcomings should always be kept in mind. Most observers believe that the diagnosis should be made carefully.Once made, and operation deemed advisable, the sinus is laid open with a knife. This leaves no doubt as to the pathology present.

In this series of cases the following interesting facts were noted:

Extradural abscess	4
Pus in sinus	7
Thrombus in sinus	17
No thrombus	6

If there was immediate free bleeding present at the time of incision, a diagnosis of no thrombosis was made. This was not necessarily always so because mural thrombi can be present and yet the sinus bleeds freely when incised. Tobey says: "It is not unusual in so-called typical cases to open a lateral sinus in which there is no evidence of thrombosis or demonstrable phlebitis, and have a complete recession of symptom follow."

Postoperative Course

The evacuation of the clot and the tying off of jugular vein does not immediately arrest the septic process. In only one case was there an immediate fall in temperature. In the most favorable cases the temperature remained high for the first four to five days, then fell normally by lysis. Complications were frequent, thus giving rise to a new focus of infection. When these were present, the temperature usually remained high for from ten to sixty days. Recrudescense of the symptoms, followed by acute exacerbations, were by no means uncommon. These exacerbations were generally associated with the development of some complication, though in some cases the temperature fluctuated over a considerable period of time and still no complications were demonstrated. The following table indicated the length of the fever and the stay in the hospital subsequent to the operation:

No. of cases	Temperature fell	Discharged
1	11th postop. day	18th postop. day
1	17th postop. day	25th postop. day
1	4th postop. day	48th postop. day
1	27th postop. day	47th postop. day
1	27th postop. day	46th postop. day
1	4th postop. day	19th postop. day
1	18th postop. day	21st postop. day
1	12th postop. day	29th postop. day
1	8th postop. day	12th postop. day
1	1st postop. day	8th postop. day
1	16th postop. day	42nd postop. day
1	2nd postop. day	10th postop. day
1	51st postop. day	73rd postop. day

The treatment during the postoperative course is mostly symptomatic. Once the jugular has been tied off and the lateral sinus opened with complete removal of the clot and the establishment of free drainage from both ends, the sinus is packed with half-inch iodoform gauze, the packing including the mastoid cavity which is packed wide open. This packing is left in place until about the fourth postoperative day when it is removed. If there is any bleeding from the sinus, it is again packed. Otherwise only the mastoid cavity is drained. The surgeon should be on the alert for the appearance of any complications and where these arise they should be treated according to the type present. Usually they consist of metastatic abscesses and require incision and drainage. Multiple abscesses of internal organs are very difficult to diagnose, do not yield to treatment and generally end fatally. Meningitis, once well established, is always fatal. The systemic treatment of the general septicemia is also rather disappointing, but should be attempted. The introduction of various germicides into the blood stream is generally disappointing and, if there are mercury preparations, may give rise to kidney complications. Blood transfusions, frequently given and in small amounts, are helpful. If there is considerable anemia, as is often the case the blood transfusions may be given as high as five hundred cubic centimeters until the hemoglobin content of the blood again approached normal. If the case is a long, protracted one, the blood of the donor may be immunized against the infecting organism by giving him autogenous vaccines. Autogenous vaccination of the patient himself may be of some value. When the organism is a streptococcus, as is usually the case, Dick's serum may be tried (Ersner.)

Complications

Very little can be found in the literature concerning the complications of lateral sinus thrombosis, and yet in a series of forty cases, Atkins found that Metastases occurred in sixteen cases (40 per cent). The joints were the most common site. The lungs were less commonly involved (four cases). Metastases associated with positive blood findings were present in nine cases and negative blood findings in seven cases. Three of the four cases of staphylococcic septicemia were accompanied by metastases."

Phillips has this to say: "The next most important symptom to that of fever is the clinical picture produced by various metastatic lesions. According to Bruger, these take place in forty-two per cent of cases. The most common second day lesion is that involving the lungs. This is indicated by pain in the chest and the advent of coughing. The lung lesion is often bronchopneumonia. A rarer lesion is abscess of the lung. Then hemorrhagic sputum of the foulest odor is noted. The infarct may lodge in the pleura, causing a pleurisy, pyopneumothorax, or

the joints may be involved. The periarticular structures may be involved, and finally lesions may take place in the heart, the kidneys, or the brain, each organ portraying distinctive symptoms."

In this series of cases, the following complications were noted:

Meningitis	4
Bronchopneumonia	3
Cavernous sinus thrombosis	2
Acute suppurative arthritis of right hip	2
Acute suppurative arthritis of right knee	2
Erysipelas	1
Cellulitis of the face	1
Pulmonary embolus	1
Pyelitis	1
Gradenigo's syndrome	1
Acute nephritis	1
Multiple abscesses of the lungs	1
Abscesses of the neck	1
Abscess of the left groin	1
Abscess of lymph gland in the neck	1
Empyema	1
Pericarditis	1
Lung abscess	1

An analysis of the above complications divides them into (1) complications from direct extension of the infected sinus and (2) complications disseminated by the blood stream.

It is not difficult to understand how the infection can spread from the lateral sinus to the contiguous tissues. Rupture through the dura is, of course, followed by meningitis. Considering the virulence of these infections and the amount of necrotic tissue in the neighborhood, it is surprising that there are not more cases of meningitis. Spread of the infection along the superior petrosal vein to the cavernous sinus is a mere extension of the phlebitis. Cellulitis and erysipelas are found with these cases just as in simple mastoiditis. Many of these infecting organisms are of such a nature that they spread readily from the adjacent soft tissues through the subcutaneous tissues of the scalp, neck and face. Lymph glands draining the external ear usually swell in mastoid disease. When the infection is especially virulent, they too break down and suppurate.

Those complications which are disseminated by the blood stream are similar to complications which arise from any septicemia, whatever the source may be. Wherever the bacteria may lodge, a new focus of infection may establish itself. The joints, lungs, pleura, pericardium, kidneys and distal lymph glands seem to be especially susceptible. Emboli and multiple abscesses of the lungs are true metastatic complications. The pneumonias, on the other hand, are practically always terminal affairs and have really nothing to do with the septicemia per se. It is of especial interest to note that of the twenty-six cases, seventeen had complications (65.3 per cent).

Prognosis

The prognosis depends upon several things. Primarily, it depends upon the balance between the virulency of the organism and the resistance of the patient. Certain strains of streptococci are highly virulent. Their ability to grow in spite of great bodily resistance may be so great that the patient is rapidly overwhelmed. Bodily resistance may be quite high at the onset of the disease and be considerably lowered by the debilitating effect of the long infection. This is especially true where there is a hemolytic streptococcus as a secondary invader.

The prognosis is further altered by the time of the operative interference. Cases which are operated upon early have a much better chance for recovery than those operated upon late. Once metastases have set in, the prognosis is very poor.

When death occurs, it is practically always from complications. The disease either spreads locally to the meninges, brain, cavernous sinus, and so forth, or it is carried by the blood stream to some distant organ such as the lungs, joints, pericardium, liver and so forth. Under such overwhelming infections, few patients are able to survive.

The average mortality rate is about forty-five per cent. This rate would probably be much lower if we were able to diagnose every case of the disease. Certainly many cases of mural thrombi are never suspected. That many cases of complete thrombosis recover without operative interference is now generally recognized. Even when these cases are autopsied later in life, the sinus may be found to be patent. Wanamaker found that the lumens of vessels often re-established themselves after the acute process subsided.

In Kopetzky's series of thirty-one cases, twenty (64.5 per cent) recovered and eleven (35.5 per cent) died. He quotes Korner who had three hundred and five cases with one hundred and twenty-five (41 per cent) deaths and one hundred and eighty (59 per cent) recoveries. Of the twenty-six cases in this series, twelve (46.1 per cent) died and fourteen (53.9 per cent) recovered.

Conclusions

1. The incidence of the disease varies with age and sex to the same degree as does mastoiditis.

2. The disease is most common in acute cases. Here there is generally a combination of virulent infection with lowered bodily resistance. In chronic cases there is generally an acute virulent infection superimposed upon an old chronic process.

3. Spread of the disease from the mastoid cells to the lateral sinus is either by direct extension or an extending thrombophlebitis along the smaller blood vessels.

4. The development of thrombosis is often subsequent to the mastoidectomy. Out of the twenty-six cases, the thrombus was found at the time of the mastoidectomy in only nine cases.

5. Symptomatology:

a. The temperature is intermittent, varying from subnormal to chills and fever. When the patient is free of fever, there are practically no subjective symptoms.

b. Persistent unilateral headache, not relieved by analgesics, is very suggestive.

c. There may be localized edema, due to the stasis of the blood caused by thrombosis of the lateral sinus.

d. In cooperative patients, the Ayer-Tobey test is positive where there is complete occlusion of one of the sinuses.

e. The Crowe-Beck sign is similar to the Ayer-Tobey test, but it is more difficult to do and the results are not as trustworthy.

f. Blood cultures, where positive, are very suggestive. A negative culture, however, is of no value. In this series, forty-five and four-tenths per cent gave positive blood cultures. The streptococcus hemolyticus is by far the most likely organism to be found.

g. Mastoid cultures are of value only in that by them the type of infecting organism may be recognized.

h. Examination of the blood demonstraed the extent of the pyemia and the resistance of the body.

6. Whether the jugular be ligated before or after the sinus is opened, depends upon the circumstances in each individual case. In this series of cases, the time of ligation of the jugular did not affect the results.

7. When the sinus has been laid bare, the diagnosis of thrombo-phlebitis may be made (1) by the presence of pus passing from the sinus, (2) by palpation of the hard clot within its walls, and (3) by its appearance. If the diagnosis is in doubt, an exploring needle may be used or the sinus laid open with a knife.

8. The postoperative course varied greatly. The temperature fell to normal in a few days in the most favorable cases, but it varied from one to fifty-one days.

9. Complications occurred in sixty-five and three-tenths per cent of this series of cases. They were of two kinds:

a. Those resulting from direct extension of the infected sinus, and

b. Those caused by bacteria disseminated by the blood stream.

Meningitis, cavernous sinus thrombosis and arthritis head the list in the above order.

10. In this series of cases, forty-six and one-tenth per cent died. The average death rate as reported by various men is about forty-five per cent.

DISCUSSSION

Lyman Richards, Boston, Mass: I feel rather badly about having had the advantage of speaking first on this subject, but in my paper last night I tried to stay away from the aspects covered by the essayist, particularly the symptomatology, and to confine myself to other phases of the subject.

Here we have a series of twenty-six cases, all treated by ligation and the mortality, as I recall it, was given as 46 per cent. Of course, there are some series of cases in which the predominant infecting organism is the streptococcus, which is particularly virulent and leads to a fatal termination in many cases no matter what we do. However, I think a mortality of 46 per cent under any circumstances is so high as to make us dissatisfied with the situation, and I cannot help wondering if just as good results could not have been secured in these cases without ligation. I reported a number of cases last night, treated without ligation, with almost identically the same percentage of mortality, and a smaller series of cases recently carried out in Boston have shown much better results.

The incidence of meningitis in some of these cases makes me wonder whether ligation does not predispose to that condition.

We must admit that, with 65 per cent of metastatic thrombi, ligation cannot be said to prevent that complication, and if it will not prevent that, what good is it That is the one and only object of ligation—to prevent the dissemination of infection afterwards and, as far as I can determine, not only is that just what it does not do, but it actually predisposes to metastatic thrombi which we recognize as the most frequent source of infection of the subarachnoid spaces. With a mortality of two or three or even ten per cent, the procedure would be less open to criticism. I am still open to conviction but I would like to see a series of cases treated by evacuation of the local lesion when and if it develops and in the meantime supporting the patient up to the time there are definite

indications for further surgery, and leaving ligation out of the picture. I am impressed by the fact that series of cases collected here and there in which ligation has been practiced invariably show a high percentage of metastatic complications, and even where the patient does recover it is often only after a very stormy convalescence.

A situation in which we can expect one out of two patients to die is a serious one at best, and makes us wonder whether it could not be modified to the patient's advantage.

R. Glen Spurling, Louisville: Mr. Chairman, with your permission I should like to join in this discussion to emphazise one point which seems to me to be pertinent. It has been demonstrated conclusively that a fairly large percentage of all individuals show one lateral sinus to be either extremely small or absent altogether. In such cases, the one lateral sinus must take care of most of the venous return from the dural sinuses. Obviously, before one ligates a lateral sinus, he should have satisfied himself that the other one is of adequate size to provide for venous return. A good index as to the size of the sinus may be had from studying properly made x-ray pictures. Also, the Queckenstedt test gives one a fairly good index of the patency of each lateral sinus.

Jos. D. Heitger, Louisville: One of the leading psychologists of the East has said that the average man is a museum of immature fixations, picked-up prejudices, snap judgments, and unverified hand-me-downs and that scientists are often the victims of tradition.

Take, for example, intracranial complications of the nasal sinuses. Up to 1922 there were only eight cases reported that had been worked out histopathologically. That does not sound reasonable but it is true. About that time, Logan, Turner and Reynolds, of Edinburgh, in a series of cases, were able to show that in a majority of their cases the extension of the infection was the result of so-called retrograde thrombosis. Dixon recently found the same condition present in sinus thrombosis from mastoid infection and states that, as a result, ligation is useless and that he will ligate the jugular no more.

As such reports get into the literature they make us all feel better because they give us a semblance of authority for holding our own and sitting tight until the proper time has arrived for operative procedure.

I had an opportunity to observe a series of cases recorded by Dr. Courville in the Los Angeles General Hospital. In the course of three years he had under observation 106 cases of simple mastoiditis which wese examined neurologically almost daily and he brought out a number of astonishing things. One was the so-called sinus thrombosis syndrome could be present in the patients with nothing more than an extension of infection within the mastoid cells. Had a neurological consultant been called into one of these cases without a prior knowledge of the patient, he would almost certainly have reached the conclusion that he was dealing with a very sick patient with intracranial complications. The symptomatology was almost identical, even to the changes in the spinal fluid except, of course, a bacteria-positive culture. Also certain other symptoms, such as convulsions, were not present, but the fever, leukocytosis, chills, nystagmus, changes in the deep reflexes, etc., were all present.

I am glad to see observations such as these get into the literature because they furnish us a sheet anchor of authority and along with competent consultation in individual cases, help to relieve us of much of the responsibility we have been in the habit of carrying in the past.

S. B. Marks, Lexington: About seven years ago I had two cases of this type, all young children that were sick for only a week or so and were not operated on and they both died of meningitis. A year later I had two similar cases, one in which one ear was involved for three weeks and the other when he was operated on. Shortly after operation he became much sicker and investigation of the sinus of the three-week ear showed a small clot. The jugular vein was ligated and the sinus obliterated. Three days later the other sinus was exposed and as there was nothing wrong with it, it was let alone. This patient developed meningitis and died. In the other case both ears were involved and the trouble had existed about two weeks. Operation was done obliterating one sinus and exposing the other. A phlebitis was found on the side that was obliterated and the jugular was ligated. This patient also developed meningitis and died. Here were two patients that died of meningitis within a short time without operation, and two others in which the infection had existed a considerably longer time, both were operated on and both died of meningitis.

Soon after that I saw a girl with hemorrhagic measles and both ears became virulent and were opened. She continued to run a temperature for a week with no other evidence of illness. X-ray pictures of the chest and physical examination were negative. She had a high blood count but no pyelitis. She was sent to the hospital where X-ray of the mastoids showed considerable cloudiness in the cells, but no breaking down and both were operated upon. Three or four days later she developed pneumonia and, perhaps fortunately for her, we did not interfere with the sinuses. She had two or three metastatic abscesses and an empyema

on the same side as the pneumonia, but finally got well.

Last year I had another case in a young woman from the East, who came to me with a middle ear involvement of one week's duration and a pan-sinusitis, and I operated on her. She did indifferently well for about ten days and then began to suffer excruciating pain in the involved mastoid which even morphin could not control. At the time of operation her staff cell count was 26 and X-ray showed considerable involvement of the mastoid, with some breaking down of the cells adjacent to the antrum. A blood culture was positive for haemolytic streptococci. Five days later she became much worse. The glands in the neck were enlarged, there was tenderness over the jugular vein, and her temperature, which had never come down, was around 103. I operated on her, tying the jugular vein and cleaning out a thrombus in the sinus. She had a very bad time. Her staff cell count went up to 47. She was given a blood transfusion every third day for two weeks but apparently she had no resistance, the staff cells remaining over 40 for this period. Neither the mastoid wound nor the neck wound showed any evidence of repair. She went on until, about the fifth week after the first operation, she developed general convulsions, more marked in the left arm and hand. Her blood had become about normal by this time. Dr. Spurling of Louisville was called into the case that afternoon and he thought there had probably been a hemorrhage down deep close to the internal capsule, but in the absence of any other symptoms it was decided to let her alone. She went along and I had to revamp the mastoid wound, although the wound in the neck had practically healed. Then she began to complain of headache which I thought was probably due to some residual sinus infection. She did not improve under treatment and I finally brought her to Louisville and placed her in Dr. Spurling's care. We were practically certain she had a brain abscess but there was no evidence of focalization. Finally a small abscess down against the internal capsule ruptured and the girl died.

I have not seen one since last summer and I hope I never see another one.

R. H. Cowley, Berea: This subject has been discussed in all its aspects except one; that is, so-called prophylaxis.

Erysipelas is not an uncommon complication of mastoid trouble and it is almost always due to streptococcus haemolytica. It often gives rise to all the symptoms of sinus thrombosis and the redness does not appear on the surface of the skin until two or three days after the temperature goes up. I used to see this complication rather frequently in my cases but I have not seen a single case since I began using foreign proteids as a part of the treatment of mastoid cases.

I agreed with Dr. Snyder that the treatment of sinus involvement depends largely upon the virulence and severity of the infection and the resistance or lack of it on the part of the patient. A lack of resistance is in turn due to deficient vitamin supply, disturbance of carbohydrate balance and lack of mineral intake, especially iron, copper and iodin, as well as exposure to changes in temperature. All of these things are more or less under our control, not only before infection has taken place but even after it has started. Vitamins can be supplied by the use of cod-liver oil and minerals by the administration of powdered sea-weed. We can investigate the patient's carbohydrate balance and if found faulty we can cut down the amount of carbohydrates. The blood sugar is apt to be high and is also a sign of lowered resistance to infection. In one case of quinsy that I recall the blood sugar went up to 200. In every case it comes down to normal when the infection is controlled.

Dr. Beale has shown the value of small doses of insulin in combating these infections. I could cite a number of striking instances of this. In one case a mastoid wound refused to heal; in every stitch-hole there was a little abscess. Within five days the wound was granulating beautifully under the administration of five units of insulin every day. I have used it with such good results that I am now giving it routinely in all severe infections.

In measles and scarlet fever we must not overlook the value of convalescent serum. Some may question this, but I believe it is because they do not use it often enough. I am not alone in this opinion. Convalescent serum is now being used in the clinics of many large cities and has become about as well established as any remedy we have. If you are not using it you are missing something.

I am also routinely giving foreign proteids in all infections. In severe infections we inject 10 c. c. of sterile milk for three days in succession. We have found that it reduces the severity of the infection and where we do have to operate we have a patient that can stand it. It is a significant fact that since I have been giving foreign proteids routinely I have not found it necessary to operate a single mastoid case which has been under my observation from the beginning. I do not think it can be questioned that these infections are largely under our control.

Shelton Watkins, Louisville: I recently heard Professor George Portmann, of Bordeaux, dis-

cuss this subject. He made the statement that he has not had a fatality from infectious sigmoid sinus thrombosis since 1926, when he began the practice of operating on the vein and sinus as soon as the diagnosis was made. He operates usually after the first chill; and always after the second. Of course, Professor Portmann does not depend on chills alone to make the diagnosis, because a definite chill does not always occur. He has, probably, operated on some cases that did not need it, but he has not done much harm, in view of his record without a mortality. The seriousness of these cases and the results obtained would seem to justify his policy. This record is much better than that of any other surgeon of whom I know. I am convinced that the operation should be performed early, or not at all. The patient is in much better condition in the early stages of the infection to stand the shock of operation than in the later stages, at which time it is probably better judgment to depend on tonic treatment, such as repeated blood transfusions.

While ligation of the jugular vein does not block off all venous avenues of extension of the infection from the sigmoid sinus, it does block by far the greatest pathway, and probably 90 per cent of the chances of an extension, that is, if not done at a late stage of the infection.

In two or three cases, Professor Portmann ligated both jugular veins. The shortest time between the ligations was twenty-one days. This shows that collateral circulation may be established in a comparatively short time.

Two factors that we are inclined to overlook, and which, probably, play a more important part than we think, are, first, the resistance of the patient and, second, the virulence of the micro-organism. When the patient's resistance is low and the micro-organism is virulent the result is certainly much more apt to be fatal than when the patient's resistance is high and the micro-organism is of low virulency. These two factors probably account in a large degree for the apparent discrepancies in results obtained from ligation of the jugular vein and blocking of the sigmoid sinus in different series of cases.

I wish to take this opportunity to express my appreciation of Dr. Richard's essay last night and his discusison this morning of Doctor Snyder's paper. He has given us much "food for thought." It will take several years experience, and the study of a large series of cases, to determine the true value of Doctor Richard's treatment of these cases.

Walter Dean, Louisville: Lateral sinus thrombosis is a grave condition. Nearly 100 per cent of unoperated cases die of septicaemia. About half the operated cases are lost. The mortality depends upon the severity of the prevailing etiologic epidemic, and upon the plan and skill of operative management. So far as I know nobody has a plan which will save 60 per cent of bona fide cases through a period of years. We make the diagnosis after the thrombosis has showered the circulatory system with infective emboli. These emboli colonize bacteria in lung, liver, heart, joints, etc., usually before the otologist is consulted. I have never had a case develop after my mastoidectomy. This may be because I wait until the mastoid builds resistance to the infection before I intervene.

If I understood Dr. Snyder correctly the cases of his symposium were routinely subjected to resection of the internal jugular vein before mastoidectomy. It is such routine that Dr. Richards is trying to educate us against. Certainly the operator could much more intelligently decide if the sinus were thrombosed where and to what extent after mastoidectomy with exposure of the sinus. Most otologists would feel impelled to resect the internal jugular when unable to clear out the entire clot below, working through the mastoid wound from above. This because the distal end of the clot would be judged to be infective. Prof. Alexander was very strict in his clinic and never permitted himself or his assistants to open a sinus until the jugular was tied. Of course he appreciated that he was not isolating the venous pathology perfectly by jugular resection, but he minimized the chance of immediate and continuous contamination of the circulatory system.

Multiple emboli and infarcts harboring say streptococcus hemolyticus is too much of a war for about half the victims. We honor Dr. Richards' earnest effort to minimize the mortality in this commonest intracranial complication of mastoiditis. It would seem to me that the surest way to diminish his mortality would be to prevent lateral sinus thrombosis in cholesteatomatous chronic mastoids by radical mastoidectomy and secondly by allowing our acute mastoids to simmer down before operation.

A. L. Bass, Louisville: I feel like I am to blame for Dr. Snyder reading this paper, but you can see from the interest and discussion that it was worth while.

Some of you recall that Bruner, in his talks here, said if the temperature went up on two successive days following a mastoid drainage, to ligate the internal jugular and not wait for a blood culture or anything. Kopetzky says, in doing a radical mastoid, always do a Quackenstedt test first, which I think is a good point. Batson says one lateral sinus is always larger than the other, and I think it is the right. Bat-

son shows a beautiful specimen where he injected a gun-cotton solution into the external jugular vein; the solution goes through a collateral vein into the internal jugular, into the deep and superficial petrosal sinuses, pterygoid plexus, etc., filling up all the venous channels of the cranium making you wonder, why tie off the internal jugular?

I have fifteen or more lateral sinus operations to my credit and have always tied off the internal jugular and obliterated the lateral sinus. In view of my present day knowledge I never expect to tie off another internal jugular, but just obliterate the lateral sinus and let it go at that; give frequent and small blood transfusions and use some Omadin on account of Dr. Cowley's recommendation.

W. S. Snyder, (In closing): The privilege of hearing Dr. Richards' paper last night has more than compensated for any embarrassment I may have felt on presenting a paper on the same subject today. If my paper has had no other effect than to stimulate this exceedingly interesting discussion, it has been worth while.

MAJOR TRIGEMINAL NEURALGIA*

R. Glen Spurling, M. D.

Louisville.

The trigeminal nerve is the largest of the cranial nerves. The great sensory portion supplies the face and head, and the smaller motor portion supplies the muscles of mastication. Today we are interested only in the sensory portion of the nerve.

The sensory root has its origin in the gasserian semilunar ganglion. The cells of this ganglion bifurcate; the external branches pass outward and form the peripheral sensory root; the internal branches pass into the substance of the pons, and there give off ascending and descending branches. The nucleus of the trigeminal nerve is a large one; it extends the whole length of the pons and the medulla oblongata (Fig.1). The gasserian ganglion occupies a cavity in the dura mater near the apex of the petrous portion of the temporal bone. It gives off three branches from its anterior margin: 1. Ophthalmic. 2. Maxillary. 3. Mandibular. These branches are usually referred to as the first, second and third divisions of the fifth nerve (Fig. 2). The first division passes through the superior orbital fissure into the orbit. It conducts impulses from the eyeball, the conjunctiva, the skin of the forehead and scalp up to the vertex, and the mucous membrane of the upper part of the nasal cavity.

The second division passes through the skull at the foramen rotundum. In the sphenomaxillary fossa it is connected with Meckel's ganglion (sphenopalatine ganglion). It conducts impulses from the upper lip, nose and adjacent part of the cheek, the lower eyelid, the upper teeth and jaw, hard palate, uvula, tonsil, nasopharynx, middle ear and lower part of the nasal cavity.

The third division leaves the skull through the foramen ovale; with it runs the motor branch to the muscles of mastication. It conducts sensory impulses from the lower part of the face, the posterior part of the temple, the anterior part of the external auditory meatus, the pinna of the ear, the lower lip, also the lower teeth and gums, the tongue, floor of the mouth, inner side of the cheek and salivary glands. The superficial sensory distribution of the trigeminal nerve is shown in figure 3.

The sensory portion of the trigeminal nerve is subject to two general types of disturbances: 1. Destructive processes which, in addition to causing pain, produce numbness and paresthesia in the distribution of its fibers. 2. Irritative processes which cause pain without subjective or objective evidence of numbness. The destructive lesions may involve the nerve either primarily or secondarily. Of the primary lesions perhaps the most common one is a tumor of the gasserian ganglion. Of the secondary lesions, the most common ones are neoplasms pressing upon the fibers in their course from the nucleus to their final distribution in the skin sense organs. Of the irritative lesions, neuralgia of one type or another is the only clinical manifestation. Perhaps the most common example of an irritative lesion of the trigeminal nerve is the slight hyperesthesia with which we are all frequently affected during the course of an acute coryza. Such conditions are usually manifested by hypersensitiveness of the skin or scalp on one side in the distribution of the trigeminal nerve.

There is a great variety of atypical trigeminal neuralgias. They all cause pain and discomfort of one sort or another in the distribution of the nerve. It is not the purpose of this paper to discuss this large group of neuralgias. It is a baffling problem and one that has been competently discussed by one of your members, Dr. Sam Marks, about two years ago.

Major trigeminal neuralgia—typical tic douloureux—is the subject of this report. It is one of those unique diseases in medical history for which we have long since discovered a most effective treatment, but which has con-

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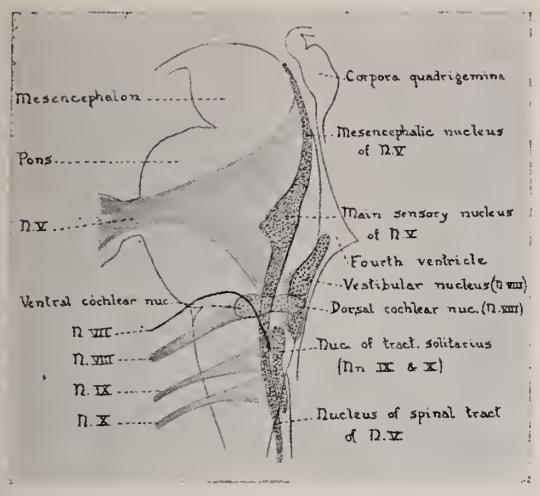


Fig. 1. Diagram of the sensory nuclei of the human brain stem. (Modified from Ranson).

tinued to baffle all of our attempts at understanding it etiology.

Incidence: It is difficult to obtain accurate data upon the incidence of the disease. Certainly, is a great deal more prevalent than has been formerly believed. Of twenty-two hundred cases that have passed through our office for diagnosis, one hundred and twenty-five of them have suffered from trigeminal neuralgia, i. e., almost five per cent of the neurological complaints are referable to this disease.

Diagnosis: Major trigeminal neuralgia is a symptom complex which is very characteristic and runs remarkably true to form. The intensity of the pain is excruciating. Probably no other disease causes such severe agonizing pains unless perhaps it be angina pectoris. The pain is always paroxysmal; the patient complaining of constant pain in the distribution of the trigeminal nerve is not suffering from tic douloureux. Ordinarily, the paroxysms are initiated by some external stimulus, depending upon the division of the nerve primarily involved. For instance, a patient with a second division tic usually has a "trigger point" in the upper lip, at the nasolabial fold, or in the upper gum. A sudden gust of wind, taking cold or warm foods, or pressure contact may suffice to initiate a paroxysm of pain. Many patients, however, do not require an external stimulus to initiate the paroxysms. The pain may occur spontaneously while lying perfectly quiet, or the patient may be awakened by it. However, it is most unusual for patients to be kept awake at night because of the pain of tic douloureux.

Another characteristic which is most important in diagnosis is that the pain never radiates outside the distribution of the trigeminal nerve. If radiation outside the distribution does occur, then the case is not tic douloureux but one of the varieties of atypical neuralgias. The recognition of such variations is of extreme importance, because treatment of the two conditions is so radically different.

Tic douloureux is primarily a disease of the aged. It is most unusual for it to appear before the age of fifty years. However, it does occur in the young. The youngest of our series was a young man twenty-four years of age when he presented himself for treatment.

In the vast majority of cases, tic douloureux is limited to one side of the face. There have been but two cases of bilateral tics in our series. There seems to be no predilection as to the side of the face most frequently involved. The "trigger zone" is most frequent in the second division, next most frequent in the third division and least frequent in the first division.

The disease is characteristically a recurrent one. In the beginning, it may appear for only a few days or a few weeks, and then disappear entirely only to recur again after months or years. With each succeeding attack the pain becomes more severe and the duration of the attack increases. It is most unusual to have the patient appear for treatment without the history of pain extending back over a period of four or five years.

In typical tic douloureux, the neurological examination is entirely negative. No sensory changes in the distribution of the nerve can be demonstrated. Furthermore, careful study of histological specimens of the ganglion and nerves fails to reveal any evidence of disease.

The prevalent conception that diseased teeth are responsible for the condition is gradually being dissipated. Even now it is most unusual to find a patient with tic douloureux who has not had many or all of his teeth sacrificed without beneficial effect upon the pain. The same may be said for the accessory nasal sinuses. The pain of sinus disease simulates in no way the pain of tic douloureux.

Treatment: There are now available four methods of treatment. 1. Alcohol injection of the peripheral branches of the nerve. 2. Evulsion of the peripheral roots. 3. Alcohol injection of the gasserian ganglion. 4. Intracranial section of the posterior roots of the nerve.

1. Alcohol injection of one or more of the peripheral branches has been practiced for many years. The principle upon which this treatment is based depends upon placing

within the nerve sheath one or two c. c. of absolute alcohol, thereby causing degeneration of the nerve fibers. The degeneration occurs from the point of injection peripheral to the sensory endings, leaving unaffected the cell bodies in the gasserian ganglion. Relief of pain is accomplished just so long as it takes for the peripheral processes of the ganglionic cells to regenerate. If the injection has been satisfactory, from six to twelve months are required for this regenerative process to be completed. The point of election for injection is just as the nerve leaves the skull at the foramen rotundum or foramen ovale. Alcohol injection of the ophthalmic nerve is never done because of the danger of injuring the optic nerve. Most patients whom we have seen have either been injected one or more times, or have heard of the injection treatment and demand it in preference to the operative procedure. Even though they are told that the pain almost invariably recurs after a few months of relief, most of them still insist upon a primary injection. It is significant, however, that most patients after having submitted to one alcohol injection seldom demand another one. The operation is extremely painful, because a needle must be inserted into the nerve directly while the patient is awake in order to produce a satisfactory anesthesia. In addition, the apprehension incident to waiting for the pain to recur is usually sufficient to convince them that a permanent cure by operative procedure is to be preferred. Furthermore, the success of subsequent injections is less satisfactory than is the original injection, presumably because of fibrosis produced in the nerve trunk by the alcohol. Peripheral nerve injection is only applicable to those cases of second and third division tics. The patient with a primary tic of the ophthalmic division must choose one of two other methods in order to obtain relief.

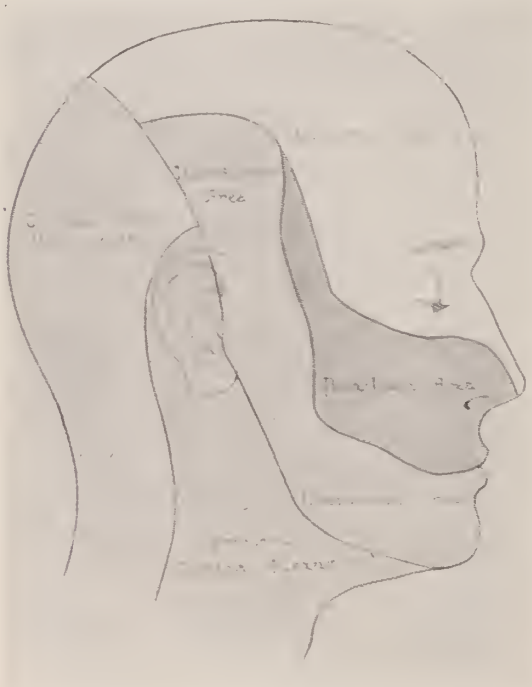


Fig. 2. Diagram showing the superficial sensory distribution of the trigeminal nerve. (Reproduced from Practical Neurological Diagnosis —Charles C. Thomas, publisher, Springfield, Ill.)

2. Evulsion of the peripheral nerve fibers has in the past been a popular method of treatment. So far as I know, nothing more can be accomplished by peripheral evulsion than can be accomplished by alcohol injection with the possible exception of an ophthalmic tic in which the supra-orbital and supratrochlear nerves may be evulsed with satisfactory relief of pain in some cases. When patients demand treatment by more conservative method than posterior root section, we invariably resort to alcohol injection.

3. Alcohol injection of the gasserian ganglion is still practiced by some with gratifying results. In order to inject the gasserian ganglion, it is necessary that the needle enter the cranial cavity at the foramen ovale. Furthermore, there is always danger of the alcohol spreading into the cerebrospinal fluid spaces, since the subarachnoid space extends to the posterior border of the ganglion. If this occurs, irreparable damage to the basal structures of the brain may be produced. There are a group of patients, however, particularly the aged, with first division tics for whom posterior root section is contraindicated. In these patients, alcohol injection of the gasserian ganglion is an ideal form the treatment, especially since the relief of pain is permanent. The alcohol destroys the cell bodies in the ganglion; therefore, regeneration does not occur. We have treated six patients in this manner with no untoward results, and with complete permanent relief of pain.

4. Posterior root section is the method of choice for the permanent cure of tic douloureux. When the fibers between the gasserian ganglion and the pons are severed, they do not regenerate. Evulsion of the whole sensory root produces complete anesthesia to pain and touch in the distribution of the fifth nerve.

There have been many refinements in this operation during the past ten years. The en-

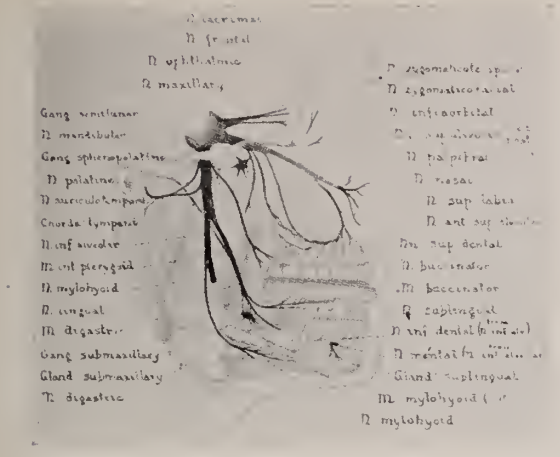


Fig. 3. Distribution of the 2nd and 3rd divisions of the fifth cranial nerve. (Reproduced from Practical Neurological Diagnosis—Charles C. Thomas, publisher, Springfield, Ill.)

tire sensory root may be severed without disturbing the motor root which lies just beneath it. This type of operation is ideal for patients with severe tic douloureux in which the ophthalmic fibers are primarily involved. The only handicap left by the operation is an anesthetized cornea. Eye complications, therefore, are always a danger, and the patient must be taught to keep the eye scrupulously clean and free of foreign bodies. Ordinarily, corneal complications do not occur unless the eye has been neglected.

The latest and by far the most gratifying refinement of technique in posterior root section has been the differential division of the nerve. This treatment is applicable only to those patients whose "trigger point" lies in the second and third divisions of the nerve. By dividing approximately two thirds of the posterior root fibers, the second and third divisions are rendered anesthetic, while the ophthalmic division retains its function. This leaves the cornea with normal sensitivity. The greatest handicap to this operation is the small danger of recurrence of the tic in the ophthalmic division.

Results: The results of treatments of this disease are among the most gratifying seen in the realm of surgery. The operative mortality is extremely low, and the disability following treatment is remarkably small. The patients may at first object to the numbness which must be invariably produced by any method if the pain is to be relieved. This is particularly annoying to those who have had their teeth extracted, inasmuch as they find it difficult to keep their plates in position. Usually, however, the relief of pain is so gratifying that they accept the numbness with good grace. It is our custom to instruct all patients that in order to get relief from their pain, they must accept numbness. In other words, they must trade their pain for numbness. After a few months, most patients no longer realize that there is an abnormal sensation in the side of the face. This is perhaps due to the fact that muscle sensibility is retained; this form of sensation is supplied through the facial nerve.

Complications: The complications to operative treatment of tic douloureux are few in number.

In a very occasional instance, there is a temporary paralysis of the facial nerve following the operation. This may persist for a few weeks or a few months, but the paralysis invariably disappears.

In cases in which the entire sensory portion of the nerve must be sectioned, eye complications are seen in perhaps five per cent of the patients. Ordinarily, they amount to nothing more than a slowly healing corneal ulcer, but in some cases, the eye may be lost because of ulcerative conjunctivitis. The care of the eye is of extreme importance in these cases. Immediately following the operation, the eye is protected by a shield. Irrigation with boric acid solution twice daily must become a routine of the patient's life. Furthermore, he must be fitted with glasses, preferably with a wind shield on the outer aspect of the lens, to be used when he is out of doors.

The recurrence of an ophthalmic tic following differential section occasionally occurs. All patients on whom a differential section is contemplated are warned of this possibility, and most of them choose the differential method even though they may have to return at a later date for secondary operation. I am convinced that this point of view is correct because of the hazard of eye complications following total section.

Our series of major trigeminal neuralgias comprise 133 cases. They have been treated by posterior root section or alcohol injection, or both.

There have been two deaths in the series. One occurred several days postoperatively in a man 66 years of age with severe cardiovascular disease, who had a stroke of apoplexy on the opposite side of the brain to which the operation was performed. A complete autopsy was done and no operative mishap could be demonstrated. The second death occurred in a woman 71 years of age with a severe bronchiectasis. She died on the second postoperative day of a pulmonary

complication.

There has been one postoperative facial paralysis in the series. The function of the nerve was completely restored at the end of six weeks.

There have been four cases with eye complications following posterior root section. Two of these lost their eyes from a progressive ulcerative lesion. The other two patients responded promptly to treatment. In both of these latter cases, the eyelids were sutured together until the lesion subsided. Herpes labialis are of common occurrence in our series following operation. The herpes are usually confined to the lower lip, and in no instance have they been of any serious consequence.

The average hospital stay has been 5 days. The wounds have invariably healed primarily.

Summary

1. Major trigeminal neuralgia (tic douloureux) is a symptom complex, very characteristic in form and remarkably constant in its manifestations.

2. It has seldom if ever been caused by infection in the teeth or accessory nasal sinuses. Operative treatment directed toward the teeth or sinuses for the relief of this condition is to be discouraged.

3. It is a disease that is capable of being cured, and in all instances, relief from the pain can be accomplished by one of several methods. Furthermore, even with radical treatment of the disease, the operative risk is as low, if not lower, than in other major surgical procedures.

DISCUSSION

Gaylord C. Hall, Louisville: One lesson to be learned from Dr. Spurling's excellent paper is that those of us who do eye, ear, nose and throat work should keep tic douloureux in mind as a possible explanation of pain about the face. As Dr. Bass pointed out last night, the whole country is unquestionably sinus-minded and there is a tendency to attempt to explain all pains and aches about the head and face on the basis of infections of the nasal sinuses.

The only phase of this subject that I feel competent to discuss is the differential diagnosis. When a patient comes to us for relief of pain about the head and face, the first thing we are apt to think of is migraine. However, with careful attention to the symptoms and past history there should be little difficulty in differentiating between migraine and trigeminal neuralgia. In the first place, migraine is a headache; neuralgia is a pain. Migraine is almost invariably attended by nausea and vomiting which is not the case in major trigeminal neuralgia. Also, in the latter condition the pain occurs at a time when the migrainous patient would be getting over it.

Another condition which must be differentiated is sinus disease. In severe types of major neuralgias the pain is so agonizing I do not think any one would confound it with a sinus infection. In the more moderate types of cases the only sinus condition I can think of that could possibly be mistaken for neuralgia would be a pan-sinusitis on one side with severe pain over the side of the face. Here the character of the pain, elevation of pulse and temperature, with stuffiness in the nose as well as the acute character of the onset, would put us on the right track. Furthermore, in pan-sinusitis, shrinking of the nose and the application of suction would relieve the pain whereas in neuralgia it would have no effect. Also, the character of the pain in the two conditions is different. The fact that in trigeminal neuralgia the pain is strictly localized in the area of the distribution of the fifth nerve would be another help.

Another condition which must be borne in mind in the differential diagnosis is Meckel's ganglion neuralgia, mentioned by Sluder in his work on nasal disorders. In this condition, however, the pain is not only along the distribution of the fifth nerve but extends down into the shoulders and sometimes into the arms. Sluder also mentions excretory phenomena, such as sneezing and running of the nose which never occurs in tic douloureux.

When Sluder first published his work on nasal disorders, I was very much interested in his conclusions concerning the so-called sphenopalatine ganglion syndrome, and for several years I watched carefully for cases in which the pain could be relieved by the injection of cocaine in the region of Meckel's ganglion. I finally decided that, even allowing for the disparity between the number of cases coming under my observation and the number of cases on which his conclusions were based, it must be of comparatively rare occurrence, and I am still of that opinion.

Still another condition which must be eliminated in the differential diagnosis is major neuralgia of the ninth nerve. This is comparatively new. About six weeks ago I saw a woman about sixty years old, with what I believed to be unquestionably a major neuralgia of the ninth nerve. She has not come to operation yet, but I think she will eventually.

It certainly behooves those of us who engage in eye, ear, nose and throat work to be on the lookout for these various conditions and to be very conservative in recommending

sinus operations, removal of teeth, etc., until after we have exhausted every means of differentiation in our efforts to establish a definite diagnosis.

D. M. Griffith, Owensboro: I wish to briefly mention one case along this line. Some time ago a patient, after having suffered terrific pain for many weeks, came to me for relief. Blocking of the sphenopalatine ganglion afforded complete relief in this case and she has not had a pain since. That was about six weeks ago. Whether the relief will be permanent or not I do not know. The sinuses were absolutely normal and she has had no pain of any kind. I injected the nerve with novocaine, then alcohol.

J. D. Williams, Ashland: A dentist of my acquaintance has for years treated tic pains with alcohol injections, the result being generally excellent and of the permanancy of a year. His plan is to freely traumatize the nerve. My results along this line have not been uniformly good, even so, I have in this manner given much relief.

Jos. D. Heitger, Louisville: I would like to ask Dr. Spurling what is the average duration of the paroxysms of pain in the cases he has seen? I have seen them last as long as forty seconds.

Shelton Watkins, Louisville: I would like to ask Dr. Spurling if he has used trichloro-ethylene in the treatment of tic douloureaux, and if so, what has been his experience?

R. Glen Spurling (In closing): I am in complete accord with what Dr. Hall has just said.

In answering Dr. Heitger's question I will say that the duration of paroxysms of pain is usually for a few seconds only. The patient may be talking in a normal way and perfectly comfortable, and then suddenly stop talking, grab the face and execute rubbing motions for a few seconds, and then will appear perfectly normal again. Such antics are typical of tic douloureux. If the pain is not paroxysmal it is not tic douloureaux. I have seen cases, however, in which the paroxysms were so close together as to lead one to believe that it was continuous, but when such cases are analyzed closely, one will find a short interval separating the paroxysms.

In my experience, Sluder's neuralgia is a very uncommon disease. However, when a typical neuralgia of this type is encountered, it is usually relieved by cocainization of the sphenopalatine ganglion, or better still by injection of the ganglion with alcohol.

As to the dentist, referred to by Dr. Williams, who injects the nerve with alcohol, I feel that he has rendered a splendid service to the patient. Alcohol injection does relieve the pain for several months and occasionally for a year or more. However, when it must be repeated time and time again, the efficacy of the treatment grows less with each injection.

Trichlorethylene (tephralene) is, in my experience, useless in the treatment of tic douloureux. I have used it on a large series of patients, and I do not believe it has any more beneficial effect than a similar inhalation of ether.

PULSATING EXOPHTHALMOS*

M. C. Baker, M. D.

Louisville

Pulsating exophthalmos or intracranial arterio-venous aneurysm was first reported by Benjamin Travers in 1809. In 1823 Guthrie demonstrated by autopsy, the causative factor, showing that the trouble was due to an aneurysm of an intracranial artery, in his particular case the ophthalmic artery. More often it is due to an aneurysmal opening in the cavernous portion of the internal carotid artery. In 1924 Dr. C. E. Locke, of Cleveland, published in the Annals of Surgery a rather complete review of literature and analysis of a total of 588 cases reported up to 1924. In 1930 Harkness, of Davenport, Iowa, collected additional reports of 33 cases bringing the total to 621. This makes an average of about five cases per year since the first reported in 1809.

The lesion is usually due to a fistulous opening in the cavernous portion of the internal carotid artery. Occasionally due to an opening between the ophthalmic artery and the cavernous sinus. The pressure in the internal carotid artery is greater than that of the cavernous sinus at the time of the pulse beat, hence the flow of blood from the artery through the abnormal opening causes the bruit. The normal flow of venous blood from the veins of the orbit courses through the ophthalmic veins into the cavernous sinus, but due to the increased pressure in the sinus from the arterial fistula there is caused a back flow of blood into the veins of the orbit, hence the abnormal engorgement and the resulting exophthalmos.

Etiologically the condition is divided into two groups—traumatic and spontaneous. De Schweinitz and Holloway reported 78 per cent traumatic and 22 per cent spontaneous. In the traumatic type males predominate with the average age incidence near the end of the third decade while in the spontaneous group near the end of the fifth decade. Lues

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is not often a factor. Arterioselerosis is probably an etiological factor in those of more advanced years. Tumors and orbital defects are occasional causes. Infection is a possible cause being carried from the nose and orbit through the orbital veins into the cavernous sinus. The traumatic cases are usually caused by a fracture at the base of the skull. Rawlings in the Annals of Surgery of 1904 stated that the body of the sphenoid is involved in 70 per cent of basal fractures. In this locality there is close association between the internal carotid artery and the cavernous sinus. This anatomical factor probably accounts for the production of these unusual vascular fistulas.

The symptoms range from a complete unconsciousnes at the time of the rupture to mild degrees of mental disturbances and from complete hemiplegia to mild choreaform movements and parasthesia. One of the symptoms noted by the patient is the subjective bruit which can be confirmed objectively. This bruit is synchronous with the heart beat and is described by the patient as a rushing roaring sound in the head. The bruit is heard plainly over the temple area with the stethoscope. The exophthalmos may occur simultaneously with the bruit but more generally follows at a later period. The protrusion of the eye is extreme causing also an external swelling and chemosis of the conjunctiva. The close association of the cranial nerves in the neighborhood of the lesion explains the frequent involvement. For instance the 2nd, 3rd, 4th and 6th nerves are frequently involved, occasionally the auditory nerve. The vision may or may not be affected in the beginning but blindness results if the condition is not relieved.

The treatment is medical and surgical; however, due to the possibility of early blindness surgical treatment should not be postponed too long. The medical treatment consists of rest in bed, administration of calcium and iodides and digital compression of the common carotid artery. A few cases have been reported as spontaneous cures but the lesion is more often progressive.

The surgical treatment adhered to by most men is that of ligation of either the common carotid or the internal carotid. The resume by Hanford and Wheeler published in 1930 in the Annals of Surgery reports 67 per cent cured and 83 per cent cured or improved by primary ligation of the internal carotid artery. After ligation of the common carotid 46 per cent cured and 64 per cent cured or improved. In other words there is 20 per cent difference in favor of the internal carotid ligation. The failures in the ligation of the common carotid seem to be due to the fact that there is collateral circulation from the external carotid on the opposite side.

In a case presented by Dorrance, of Philadelphia, the common carotid was ligated and three weeks later when the bruit again became evident the wound was re-opened with a finding that the internal and external carotid were both distended and showed some pulsation due to collateral circulation from the opposite side. Ligation of the common carotid is of value in older subjects as collateral anastomosis is less likely to occur. In younger subjects the bruit disappears but often reoccurs in a short time. Ligation of the internal carotid seems to give the surest result and in this method the pressure is reduced but only collateral circulation is possible through the circle of Willis, hence reduced circulation and danger of hemiplegia. Some men advocate ligation of the orbital veins and the ophthalmic artery. In this method blindness is almost sure to result. Dorrance, of Philadelphia, advocates tying off the common carotid artery and about two weeks later ligating all branches of the external carotid except the internal maxillary and the superficial temporal. In the A. M. A. Journal of November 12th, 1932 Campbell and Martin, of Atlanta, Georgia, reported a case with no recurrence after five years treated by constricting the internal carotid with bands of fascia cutting off about 90 per cent of the flow of blood. While others advocate opening the internal carotid and releasing in the blood stream long strips of muscle fibre taken from the sterno-cleido-mastoid, the incision is closed—the theory being that the muscle fibre is carried up through the internal carotid and lodges in the aneurysmal opening, thus blocking the arterial leak. In carotid ligation paralysis if it occurs, comes in the first twelve hours, but may occur in twenty-four or thirty-six hours, hence the patient should be watched constantly for that period of time.

Preceding the ligation digital or some form of compression should be used several times a day in increasing periods of time for a week or ten days. This gives information as to what effect shutting off the carotid flow will have in stopping the bruit and the approximate danger of hemiplegia.

Case Report: Mr. F. G., age 46, came to the office June 23, 1934; vision in the right eye 20-20, in the left 20-50 minus two. He gave no history of trauma but of a bulging of the left eyeball for the previous four or

five days. The eye grounds were negative. X-ray by Dr. J. E. Bell showed the left posterior ethmoid and both antra slightly cloudy. On June 27th a lavage of the left antrum was done, no pus was found. Wasserman test was negative. On advice of Dr. A. O. Pfingst a basal metabolism was run showing plus eight thus ruling out a thyroid factor. On July 5th an exploratory operation was done through the frontal sinus area. The floor of the frontal was intact but the ethmoid wall showed corrosion. The ethmoids were curretted, iodoform drain inserted and the incision partially closed. Profuse bleeding was experienced throughout the operation. Drainage was good but in two weeks time the exophthalmos had increased to an alarming degree. The eyeball was fixed and displaced downward and outward with extreme chemosis of the conjunctiva. Dr. Glen Spurling was called in consultation and advised ligation of the carotid artery. Patient was instructed in digital compression for periods of five to twenty minutes several times a day. This was practiced for two weeks. On August 4th Dr. Spurling ligated the common carotid artery in three places leaving the wound open for six minutes to watch the effect on the bruit and the possibility of symptoms of hemiplegia.

On August 17th the vision was 20-70 minus one and the exophthalmos slowly but surely receding. The muscle excursions were good except for the external rectus. On September 12th vision was 20-50 minus. On October 15th the orbital contents had receded except for a large bulging portion of the conjunctiva below. Under local anesthetic this protruding part was removed and sutures applied.

On October 31st the vision in the affected eye was 20-20 minus three, the eyeball had receded to its old position, eye grounds appeared normal, pupillary reflex normal and all extrinsic muscles functioning except the external rectus and this muscle partially as the eye could be turned out about fifteen degrees beyond the median line. There was no recurrence of the bruit. Patient has not returned since but is still in the city and evidently there has been no recurrence of the condition.

DISCUSSION

Adolph Pfingst, Louisville: I feel incompetent to discuss this subject of which I know so little, and rather embarrassed to lead the discussion with Dr. Spurling present, who is so well versed in these intracranial vascular diseases. I had the pleasure of seeing Dr. Baker's case and as is frequent in the observation of unusual conditions I saw two other cases of cavernous sinus internal carotid aneurysm all within a year. When the triad of symptoms, unilateral exophthalmos, pulsation over the area of the affected eye, and a bruit in the eye and the surrounding bones is present, the diagnosis of these cases is not difficult, hence my ability to diagnose my first case occurring in a child.

Speaking of the history of unilateral pulsating exophthalmos, it was Benjamin Travers who first made a careful study of the condition at the beginning of the 19th century and he came to the conclusion that the cases were all due to cercoid aneurysm of the orbit. Then later it was believed by other observers that aneurysms of the ophthalmic artery caused practically all of these cases.

Just about a century ago Baron, after a careful clinical study of several cases of pulsating exophthalmos and subsequent autopsies, demonstrated that the majority of the cases had their origin within the cranium and not in the orbit. He found them associated with a communication of the internal carotid artery with the cavernous sinus. Since then upward of six hundred cases of unilateral pulsating exophthalmos have been recorded, half of which were due to arteriovenous aneurysm and the other half about equally divided between cercoid aneurysm of the orbit and simple aneurysm of the ophthalmic artery.

The underlying pathology of the spontaneous arterio-venous aneurysm is still in dispute, though the majority of writers attribute the condition to a slow erosion of the walls of the adjacent vein and artery finally resulting in rupture and the sudden appearance of the distressing symptoms related by Dr. Baker. Some believe that a congenital communication between the artery and vein through numerous anastamosing small vessels finally leads to a wider communication and aneurysmal dilation. There are some who believe that fistulous communication may exist as a congenital condition but that the free communication and distention does not take place until later in life. This theory is hardly borne out by the frequent late development of the aneurysm. The age incidence of the aneurysmal development has been placed in the fifth decade —the oldest case on record having occurred at 81 years and the youngest at 16 months. My first case occurred in a boy 20 months old. This case was diagnosed and referred to Dr. Spurling. Ligation of the common carotid relieved it. Dr. Baker was kind enough to have me see the case he reported today. I am free to confess my failure to help him make a diagnosis. The proptosis in the absence of pulsation over the region of the protruding eye and no subjective

bruit, in the presence of X-ray findings pointing to disease of the ethmoid cells, led to the conclusion that we were dealing with trouble within the orbit and brought about the operation as related by the essayist. It subsequently took Dr. Spurling and his stethoscope to find the bruit, to make the diagnosis and bring about a cure.

R. Glen Spurling, Louisville: If there is a lesson to be learned from this case I would say that it illustrates the value of the stethoscope in diagnosis. Certainly, an arteriovenous aneurysm of the head can be best diagnosed with this instrument. Every patient presenting a unilateral exophthalmos with proptosis should be considered a case of arteriovenous aneurysm until proven otherwise.

In this case we ligated the common carotid artery. I have seen six or eight cases of this disease and all of them have either been greatly relieved or completely cured by this procedure. However, ligation of the carotid artery should not be resorted to until the patient has had a period of active digital compression of the artery. When he is able to keep the artery occluded for 15 minutes without cerebral symptoms, then I feel we are safe in ligating the vessel. The patient himself can usually tell when digital compression has occluded the artery, because the bruit becomes less distinct. Of course, all of these patients hear their own bruit. I recall one case in which digital compression of the common carotid artery for as long as thirty seconds caused the patient to faint and develop a complete hemiplegia. In this case, the patient was taught to compress the artery himself, gradually increasing the period of compression just to the point where cerebral symptoms appeared. After several weeks of this training, he was able to compress the artery for twenty minutes without producing hemiplegic symptoms. Finally, with digital compression alone, the bruit disappeared; his eye receded, and he has remained free of symptoms.

Aliamentary Intoxication of Nurslings.— Seckel shows that during alimentary intoxication of nurslings there develops a true circulatory collapse with reduction of the circulatory quantity of blood. This decrease in the circulating amount of blood is due to inspissation as well as to storage in the depot organs. Both these factors lead to a retardation of the blood stream and to a reduction in the minute and beat volume of the heart. The smaller beat volume of the heart during collapse is indicated by a diminished size of the cardiac shadow in the roentgenogram and by the dimution or the complete disappearance of the first heart sound.

INCIPIENT SENILE CATARACT*

Charles K. Beck, M. D.

Louisville

A cataract is an opacity of the crystalline lens or of its capsules or both. It seems uncertain as to whether opacities visible only with the slit lamp should be considered to be cataracts.

Classification: As this study is concerned with so-called senile cataracts only the numerous classifications are omitted. Anatomically senile cataracts are either lenticular or capsular or both. Clinically they are nuclear, cortical, general or toxic. As to the stage of development they are either incipient, immature, mature, or hypermature. The discussion in this paper is limited to incipient cataract.

Course: All authorities consulted agree that there is a period of development of cataracts from incipiency to maturity which varies greatly. It may be a few months or twenty-five years or more. In fact a cataract may remain incipient. But usually there is either a steady uninterrupted progress to maturity or a progress with one or more periods of rest. Without treatment there is no tendency toward clearing of the lens. The opacity remains as it is or becomes greater. However, cases of spontaneous resorption have been reported (112) but this is absorption of the cataractous lens and not simply a clearing of the lens by removal of the opaque materials.

Symptoms: "Second sight" is due to a swelling of the lens which increases its refractive power, or to an increase in the refractive index of the lens because of sclerosis. In either case the glass that was necessary to overcome presbyopia is replaced in part of the increased refractive power of the crystalline lens. Usually this increase is sufficient to replace only about one dioptre instead of the three dioptres necessary to correct the presbyopia of the sixth decade. When the refraction of the presbyope requires a weaker lens than previously worn a beginning cataract should be suspected. "Second sight" occurs in myopia also but has no relation to this study.

Dimness of vision is usually the symptom which the patient notices first. He notices a smokiness or haziness and concludes that the glass should be changed. It occurs usually in one eye first and he concludes that only one glass needs changing. However, when

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the examination is made pathology is almost always found in both lenses.

Monocular dilopia or polyopia are sometimes present and are due to irregular astigmatism produced by alterations in the lens.

Pain and photophobia are sometimes present. The pain may be due to a disturbed choroid or to a rise in the tension caused by the swelling of the lens. Acute glaucoma may occur. The state of the intraocular tension deserves close attention in all patients with cataract. The photophobia may be due to some disease of the choroid or retina but is more often due to the irregular astigmatism of the lens. Tinted glasses usually relieve.

The depth of the anterior chamber may be normal, lessened or increased. Shallowness is usually caused by encroachment of a swollen lens, increased depth, by a small lens or a Morgagnian cataract.

The pupil should be entirely normal as to reaction to light and accommodation and the effects of drugs. Responses to accommodation should be present as long as vision in one eye is sufficient to discern near objects. Exclusion or occlusion of the pupil of course prevents its response to all stimuli.

The color of the pupil however is usually changed if the capacity has invaded much of the pupillary area. The color depends upon the degree of maturity and the hue of the opacity. It may be gray, white, or black with numerous shades of difference. However, a pupil that is not always clear does not always mean cataract. With advancing years lenses become firmer, straw colored, and reflect more light and may thus be mistaken for cataract. On the other hand a clear pupil does not exclude incipient cataract.

Hyperemia of the conjunctiva sometimes occurs and has been attributed to the strain necessary to see through a cloudy lens. Attention will be drawn to this symptom later. It may be the result of an attempt on the part of nature to improve the condition of the lens.

Diagnosis: The ophthalmoscope is necessary for diagnosis of all forms of cataract. However there is another method which may be used in the absence of the ophthalmoscope. This is known as the catoptric test and is performed in the following manner.

The pupil should be dilated. In a dark room a lighted candle is held before the eye. If there is no cataract there will be three images of the flame. Two will be erect and are formed by reflection from the cornea and the anterior surface of the lens. The other will be inverted. It is formed by reflection from the posterior surface of the lens. If there is opacity of the lens the inverted posterior image will not appear and if the anterior capsule is involved the deeper erect image will also be absent. It is evident that this test is useless for early incipient cataract.

The ophthalmoscope however may detect very minute opacities. These are seen as black spots on the red background of the fundus reflex. They may have most any form but for the most part are either cortical, nuclear, or general or a mixture of cortical and nuclear.

The cortical usually appears first far behind the iris toward the equator and usually in the inferior nasal quadrant. It may first be seen in the inferior temporal quadrant. It rarely occurs first in either of the upper quadrants. It is in the form most often of an irregular black spot or a "spoke." Often when there is one "spoke" there are two, one beneath the anterior capsule and one beneath the posterior. While looking at them if the position of the observing eye is shifted they may appear to act similar to the blades of scissors. At other times the cortical makes its first appearance in the pupilary area as fine black lines, looking like cracks in glass, or irregular dark spots, or minute dots or bubble-like bodies. It is impossible to describe all the myriad forms that may be seen.

The nuclear usually presents a milky haziness in the center of the lens. When looking at the fundus the markings of the structures there are no longer clear but indistinct as though seen through a fog. Sometimes one may look through the lens a little extracentrally and perceive a shadow thrown on the retina by small opacities of the lens otherwise invisible with the ophthalmoscope.

As the cataract progresses it may be desired to determine as to whether it is "ripe." If "ripe" in the first place, of course, all the red fundus reflex has disappeared. The opaque lens covered by its capsule is level with the margin of the pupil and no shadow is thrown by the iris. If immature a dark semicircle appears at the side from which the light comes. If hypermature the shadow appears but the surface of the lens is flat.

Pathology: The earliest pathology noticed is a separation of the lens fibers with a collection of fluid between them. This later forms into droplets, the spheres of Morgagni. The fibers then swell, become cloudy and undergo a fatty degeneration. The nucleus becomes sclerosed but otherwise scarce-

ly changed. If not removed at this time still further changes follow more or less slowly, finally resulting in liquefaction of the cortex. The nucleus then floats in a liquid contained in a sac which is the capsule. This is Morgagnian cataract.

PROGNOSIS: As concerns incipient cataract depends upon the management instituted and carried out. Unsupervised cases will either progress in months or years to maturity, or they will progress to a point which there is no way of determining, or they will remain stationary. No statistics have ever been found to aid in these three dilemmas. There is one thing almost positively certain. The opacities will not grow less or disappear. The tendency is toward progression.

Supervised cases have a somewhat different outlook. They fall into three classes as do those unsupervised, but with a difference in one class. Those that progress, those that remain stationary and those that clear entirely or in part.

When a cataract has progressed to the point where useful vision has disappeared it is no longer incipient. It becomes necessary then to look forward to the time of operation and manage the case accordingly. Unless artificial ripening methods are adopted or the intracapsular operation is performed the time before an operation can be done may stretch out into years.

ETIOLOGY: Age—Fuchs states that cataract cannot be regarded as a physiologic attribute of old age. It is always a pathologic process. Age is a factor only either in that it provides a sufficient time for the progress of the pathology or in that it provides other pathology that may have a bearing.

DISEASE: Diabetes, nephritis, gout, malaria, influenza, rachitis, syphilis, angiosclerosis, epilepsy, meningitis, cutaneous affections, etc., have about as much connection with the etiology of senile cataract as age. They may cause what is known as toxic cataract.

OCCUPATION: Glass blowers' cataract is thought to be the result of heat and the light rays emanating from the heated glass. Furnace workers are exposed in a similar manner.

HEREDITY: Many patients inform of cataracts among ancestors and relatives. As explained later, this seeming influence may be due to an entirely different factor.

TRAUMATISM: A direct injury to the lens whereby the capsule is ruptured or penetrated usually produces cataract. Concussion of the lens may also produce cataract. Electric shock is classified as a cause.

Certain diseases of the eye itself as iritis, chroiditis, glaucoma, corneal ulcer, etc., have been followed by cataract.

It is surprising in how many textbooks and journal articles accommodative strain is listed as a cause of cataracts.

"The influence of accommodative strain on the production of cataract is not thoroughly understood. A large proportion of cataractous eyes are ametropic. It is probable that the constant effort of the ciliary muscle unfavorably influences the nutritive processes of the lens." (Wm. E. Hopkins).

"Eye strain is an etiologic factor. Hypermetropia and astigmatism have been present in the majority of persons who develop cataract. It has been claimed that an uncorrect astigmatism against the rule is a potent etiologic factor." (Jas. M. Ball).

"Lifelong accommodative strain, due to uncorrected refractive errors, through the congestion and inflammation which it induces in the inner tunics of the eye, is, I am persuaded, a far from uncommon cause of cataract. The frequency with which I have observed, especially in astigmatic eyes, incipient cataract long since forced this conviction upon me." (Sam Theobald.)

"Uncorrected ametropia is also a predisposing factor." (L. W. Fox.)

"Investigations show that a large majority of cataractous eyes are hyperopic and astigmatic, and it has been stated that the danger of cataract is increased where the astigmatism is against the rule and remains uncorrected. The evident prophylactic measure is the use of proper glasses. (Geo. E. DeSchweinitz.)

"It is certain that in some cases the progress of senile cataract and of early attacks of glaucoma, have been checked by removal of eye strain." (Edward Johnson.)

This is the voice of the practicing ophthalmologists. The research laboratory comes forward with various theories. A. Giannantoni found decreased renal function, slightly increased total nitrogen in the blood and slightly decreased urea in the urine of cataractous patients, as compared with normal persons of the same age period. He also found an increase in creatin and creatinin indicating a retention of these by cataractous patients.

On the other hand M. Vele concludes that changes in renal permeability are no greater in persons with cataract than in normal persons of the same age.

Then C. Giannantoni comes forward after "examining a large number of persons between the ages of 50 and 75 years, with and without cataract" and states that 70-

85 per cent phenolsulphonaphthalien was excreted in the first three hours in the non-cataractous while in the cataractous only 55-70 per cent was so excreted. Examination of the urine offered confirmatory evidence of renal insufficiency.

Diet in which there was no vitamin G. resulted in cataract in 96 per cent of albino mice after an average of forty eight days. (Langston, Day & Cosgrove.)

Decreased permeability of lens capsule. (J. S. Friedenwald.)

Modification of the chemistry of the aqueous and vitreous. (P. W. Salit.)

A quotation from Von Der Heydt "It is not fully understood why lenses show this tendency to fissure formation in the cortex. There have been varied attempts as explanation, such as excessive contraction of the nucleus, retardation in the development of new lens cortex and traction of the zonule fibers.

"In certain lenses the nucleus, because of its weight behaves as a foreign body and because of softening of the cortex, gravitates within the capsular bag (Morgagnian cataract.) In view of this and the fact that relaxation of zonule fibers in efforts at accommodation still continues at this period of life, it is believable that this constant trauma of the weight of the nucleus on the cortex may initiate the changes. This, in a way would explain why the incipient lesions of this type are almost always first seen below and on the nasal side."

Toxic cataract or cataracta complicata occurs as a distinct entity as proven by slit lamp studies in conjunction with degenerative changes in the eye. Since the advent of the slit lamp the same distinctive pathology is being found in the lens without other detectable evidence of these degenerative changes. Von Der Heydt suggests that one may suspect toxic etiology and the as yet concealed degenerative changes.

The literature is sprinkled with references to astigmatism especially against the rule as a cause to cataract. Some of these are quoted above. All your essayist has found are by practicing ophthalmologists. Numerous tables citing the far greater percentage of astigmatism especially against the rule in cataractous than in non-cataractous eyes are in existence. But research scientists are strangely silent in the face of all this clinical evidence. Scientific proof and explanation of the modus operandi is lacking. Those engaged in research have taken a different track. They are busy on such things as chemistry of the media of the eye, permeability of the lens capsules, etc. These are valuable and necessary and no doubt lead up to the final solution of the enigma of the etiology of senile cataract. But they seem to have ignored these observations which are too numerous to be mere coincidences.

An ingenious theory is found in an article written by Edward Jackson which is as follows: "It has been stated," so the theory is probably not his own. Whose I do not know. "That the astigmatic eye seeks to overcome indistinctness of vision by unequal contraction of different parts of the ciliary muscle, causing unequal convexity of the crystalline lens in different meridians. It has not been certainly proven that this occurs. But the indistinctness may be partly overcome by rapid changes from one state of accommodation to another, causing first the one focal line and then the other to fall upon the retina in such quick succession that their impressions may aid in a single mental preception. Either use of the accommodation leads to eye strain with all its possible manifestations."

If either of these two probabilities is true the permeability of the lens capsule could be modified thereby, the chemistry of the refractive media could be influenced, and irregular traction of the zonule fibers thus producing fissures in the lens could occur. From a clinical standpoint the theory appears both logical and probable. It explains many things enumerated above. The hyperemia of the conjunctiva may not be due to the so-called strain necessary to see through a cloudy lens, but to strain of the segments of the ciliary muscle or to overactivity of the same in its effort to overcome the effects of astigmatism.

Heredity may have no direct influence on the development of cataract but an indirect influence in that astigmatism is often hereditary. This leads us into a digression of the etiology of astigmatism in order to get back to the real first cause of cataract if the theory is correct.

Most of our physical characteristics are inherited. If complexion, shape of face and nose, etc., are influenced by heredity why should not the shape and depth of orbits, the length and attachment of extraocular muscles and the shape and size of the eye ball, cornea and lens be so influenced? It is not meant to convey the idea that astigmatism is static. It is no more static than other physical characteristics of the head and face. These are constantly changing and, since they stand in causal relation to astigmatism, so is astigmatism.

Clapp states that "Nutrition and metabolism probably play a most important part in the pathologic changes found in the lens." Is it not logical if there is an attempt on the part of the eye in some such way as mentioned in the theory of Jackson quoted above to overcome astigmatism, that astigmatism influences the nutrition and metabolism of the lens causing a departure from the normal? We know that there is some kind of attempt to overcome astigmatism. Witness the frowning and squinting relieved by mechanical correction of astigmatism. Is it not reasonable to conclude that the ciliary muscle collaborates in this attempt. Certainly there are many mechanical difficulties in proving or disproving the above but greater difficulties have been overcome in the past with fewer facilities than are available now. It is a challenge for somebody.

Management of Cases.—In incipient cataract your essayist does not believe the ophthalmologist should assume the responsibility of keeping the fact that cataract is present to himself. It is usually best to be honest with the patient and communicate the fact learned with as much as possible of the prognosis. At least the patient's family should be told. The idea should not be conveyed that there will come a period of blindness followed by an operation. This may never be the experience of the patient because the opacity may not progress. So there is some hope of avoiding an unpleasant experience and this hope should be emphasized. The patient appreciates some action on the part of the ophthalmologist toward the fulfilment and realization of this hope. He does not appreciate inaction. And there are several things that have been done.

As stated above it is probable that ametropia is the main cause of senile cataract. Of course in ametropia the proper correction should be worn constantly from early childhood, but it is not too late in incipient cataract to attempt to arrest the progress of the opacity by correcting the ametropia with glasses. So if ametropia exists proper glasses should be prescribed for constant use. And one should not stop there but insist on frequent checking of the refraction. For if the cataract progresses there is likely to be swelling of the lens or increased refractive index which produces a change in the refraction. The glasses should be changed to meet the new condition.

Concommitant with this, other measures should be taken. The general health and hygiene should receive the most careful attention of the family physician. Local drugs which increase even for a short time the circulation of the eye are thought to help in the clearing of the opacities. In doing this we are not forgetting that there is no blood supply to the lens. But we are remembering that there is a circulation in the lens that takes care, or should take care, of the materials necessary for the healthy condition of the lens and the products of metabolism. It is very probably the breaking down of this system that marks the beginning of cataract. The lenticular circulation does not distribute normally the nutritive materials or carry off thoroughly all the waste. Whipping up the circulation of the eye is supposed to stimulate this process. Various agents have been used for this purpose.

Lt. Col. Henry Smith recommended subconjunctival injections of cyanide of mercury maintaining the hyperemia by the use of yellow oxide ointment. Peter, Dean, and others also reported on the use of cyanide of mercury.

Dionin has been used by a number of ophthalmologists in solutions of from 1 per cent to 10 per cent or even the powder. It is customary to begin with the weaker solutions and increase the strength as tolerance is established.

Glycerine and 3 per cent boric acid solution is believed by Weeks to be just as efficacious as dionin. It is much less expensive. He recommends its instillation at bedtime.

Many other agents have been used for the purpose of stimulating the circulation of the eye. May they be considered harmless? If they really succeed in removing a part of the opaque materials or even in the prevention of further progress toward opacity one would not hesitate to assume what slight risk toward future pathology their use might incur.

When it is recalled that the lens continues to grow throughout life and that none of its cells are ever desquamated, it requires some trepidation to increase the rate of growth of these very slow growing lens fibers. Usually increased circulation to and from a part means increased metabolism. This may or may not be true as regards lens fibers. The use of these hydrogogues is based upon the theory that the metabolism of the lens has become subnormal. This is an effort to re-establish the normal rate, or to even go beyond the normal rate in the effort to promote the removal of at least a part of the opaque material present. If this should result in speeding up the growth of the lens fibers it might produce encroachment on the

ciliary body. Your essayist has not found these surmises mentioned elsewhere. They may have not foundation in fact or reason.

Lens antigen has attracted a good deal of attention in recent years. It is to be hoped that it will deserve to attract much more. There is not one of us who would not consider it quite a calamity to have even an incipient cataract. Having one, it would be a joy to know that it could be cleared by a few injections of lens antigen. Surely no one of us considers an aphakic eye as valuable as one containing a clear lens even at seventy. We would therefore each consider an agent capable of harmlessly clearing a lens of opaque materials immensely worthwhile. Why when we have been told that lens antigen is such an agent are we so slow in adopting its use? So many attempts have been made to mislead us and so many of our number have been over-enthusiastic and rushed into print too early that we have acquired quite a large stock of resistance and skepticism. And it is well that it is so. After three years use of lens antigen it is the opinion of your essayist that it is not an agent that clears many cases to any great degree. However in his experience there have been some very remarkable results. The report made last year is still true. Other eyes have been treated since with similar results. In all cases the hydrogogue treatment and iodides internally have been combined with the use of lens antigen and frequent attention to the state of refraction. Results indicate that this method of treatment is usually worthwhile notwithstanding the fact that for the most part the improvement in vision or appearance of the lens has been slight. Marked results have been infrequently obtained. But the patient has been given the chance to be one of the few or one of the larger number of those who have obtained an arrest of the progress of the opacity. At the same time the ophthalmologist has been able to dissipate some of the dread of coming blindness with a not unfounded hope.

Your essayist has conceived the idea that cataract is one of the preventable diseases and that as such, it is the duty and will be the privilege of physicians some day to consign cataract to the limbo of past unpleasant memories as we have many other diseases. It is for that reason he is testing straws discarded by other drowning men and writing with the hope that some research worker with facilities, which he, a clinician, lacks, may find a challenge that will lead to the solution of the cause and point the way to prevention and treatment.

DISCUSSION

F. C. Thomas, Lexington: A number of observers, most of whom must be considered competent, have advanced the idea that refractive errors in the comparatively young presbyope, say forty to forty-five years of age, who has pretty good accommodation but who refuses to wear glasses either for distance or close, with the consequent continued punishment of his ciliary muscles and the constant pull upon a lens already partially solidified, is a potent factor in the development, not only of cataract but also of glaucoma. This may or may not be wholly theoretical, but certainly upon careful refraction of patients around fifty years of age we find a preponderance of cases of astigmatism against the rule. At least, that has been my experience.

Another thing that has been pointed out by many observers is that the incidence of cataract is unquestionably becoming less frequent among people in the higher walks of life and that this decline is in more or less direct ratio to the progress that has been made in establishment of facilities for good refraction in the small towns throughout the country. Forty to fifty years ago it was impossible to get good refraction except in the larger cities. While this may be entirely theory it certainly sounds plausible, and it behooves each and every one of us when we see an individual forty odd years old who needs correction of his near vision, to refract him with the utmost care and to insist upon his wearing glasses for close work. A certain amount of the incidence of glaucoma in the later years of life has also been attributed by competent observers to failure or refusal of the individual to wear glasses in his early presbyopic years.

As to the use of drugs in the treatment of cataract, we must not overlook the fact that in a certain proportion of cases the disease becomes arrested of its own accord, and if it so happens that we have been giving the patient lens extract we are apt to give it credit for arresting the disease. I can recall one such instance in my own experience but I do not believe the lens extract had anything to do with it.

Adolph O. Pfingst, Louisville: Dr. Beck has given us something to think about. I have never been quite convinced that lens opacities are always the result of the causes attributed to them. I am in no way convinced that the use of the eyes for close work brings about cataract as long as refractive errors are neutralized by the wearing of proper glasses and thus overcoming symptoms of eye strain. It is rather a significant fact that the inhabitants of India and

Egypt, who surely do not use their eyes excessively for close work, are peculiarly susceptible to the development of cataract. We also find the condition frequent among negroes and illiterates in this country.

Regarding the treatment of incipient cataract I would say that I have during my years of practice employed the various local and constitutional remedies that have been suggested from time to time such as the administration of iodides, the installation of dionin and other drugs, and the sub-conjunctival injection of saline. I had the good fortune to be present when Dr. A. E. Davis, who is as you know, the strongest exponent of the use of lens antigen in this country, presented his first paper on this subject before the American Ophthalmological Society. I was also present a year later when he presented the subject at the session of the International Ophthalmological Society in London in 1911. In both instances the presentation elicited very active discussion and for several years the lens antigen treatment was employed by the leading ophthalmologists of the world.

About that time I treated thirty cases of incipient cataract with lens antigen furnished by Eli Lilly and in no case could an improvement be determined. Since then I have made no further study with this form of treatment. I know of course that the small number of cases that I treated is not much of a criterion however as far as I know the treatment has been abandoned by most ophthalmologists throughout the States.

I know Dr. Davis very well and I know that he is as sincere in his statements as is Dr. Beck and we should not ignore their observations.

Jos. D. Heitger, Louisville: It has been brought out that lens extract works by absorption and if so what is to prevent its absorbing the entire lens?

Falmouth has called attention to the fact that a certain percentage of individuals are normally hypersensitive and that such individuals are more likely to have trouble in the cortex. Therefore, if one uses lens extract in such a case and the patient later requires cataract operation, is it not apt to make him more sensitive afterwards?

Every little while some new method of treating cataract is advanced but none of them seem to be just what we are looking for.

Walter Dean, Louisville: Abiotrophy is an hereditary predisposition to early trophic failure of an organ. This is probably due to disfunction of the glands of internal secretion. Early senile cataract is an example of this.

It is a common observation that blindness from senile cataract runs in families, but in my experience is not nearly so common as early familial senile deafness.

Chas. Beck, (In closing): Referring to Dr. Pfingst's remarks, I have had no personal experience with cataract occurring among the illiterate populations of India, Egypt and other foreign countries, but it is my impression that climatic conditions have a great deal to do with the large incidence of cataract in those countries. Certainly this is not true in the cataracts seen in this country. I am so far from feeling that ametropia has been proven not to be a cause of cataract that I have laid special stress upon it in my paper. If I am mistaken in this view, I would be glad to have some one correct me by citing the proof.

As to the use of lens antigen, it is true that where the disease becomes arrested while it is being used, we cannot say positively that the lens antigen was responsible for the arrest, and that is undoubtedly the reason why so many men have lost faith in it. It has been shown that in a large percentage of cases of cataract there are periods of remission or the disease becomes arrested entirely. There is a reason if we knew where to find it, and if we could put our finger on it the knowledge would probably enable us to stop the progress of cataract in all cases. It may be due in some degree to the general health of the patient. That is why I send them to the family physician to be thoroughly checked over.

In a report that I made last year of thirty cases in which I had used lens antigen, twenty-two were reported as showing some improvement. In six cases the disease was arrested and made no further progress. Two cases went on to maturity in spite of everything I could do. It must be admitted that in most of the twenty-two cases reported as showing improvement, the improvement was very slight. In two cases, however, the improvement was marked and has continued in one case for eighteen months and in the other for nearly three years.

Dr. Heitger asks why the whole lens is not absorbed by the lens antigen. Dr. Hall asked that question when the subject was discussed before a local society. The only means I had of determining the amount of absorption was from my refraction records in the various cases. I looked them up and found that those cases which showed some clearing up exhibited no more refractive changes than those which did not show any clearing up. From this I judge that there is no absorption of the normal lens fibres but only of the opaque diseased material.

I usually give 1-10 c. c. of lens antigen subcutaneously to see if there is any allergic reaction. If so the dosage is increased very slowly and carefully; otherwise I increase the dose

by 1-10 c. c. daily. In four or five days you will notice that some areas which had hitherto been clear have now become milky. When the dosage is interrupted this milkiness disappears and when the antigen is started again it returns. I have observed this often but what it means I do not know.

Dr. Thomas mentioned the fact that astigmatism against the rule is present in so many cases of cataract. I referred to this in my report and pointed out that this characteristic is receiving a great deal of attention in the literature on the subject.

Dr. Dean referred to hereditary predisposition to cataract which I mentioned in the early part of my paper. I cannot get away from the idea that ametropia has some influence on the development of cataract. Certainly astigmatism runs in families. We know that where we find an individual with a high degree of astigmatism we can expect to find the same thing in a child of that individual.

NASOPHARYNGEAL FIBROMA, REPORT OF TWO CASES*

Will R. Pryor, M. D.

Louisville

Our own modern knowledge of nasopharyngeal fibromata dates back to a case reported by Braden Kyle in 1907. Since that time a number of cases have been described and various types of treatment instituted. Chevalier Jackson saw a case which complained of a blocked nostril, headache, earache and severe nose bleed. He discovered a large hard tumor in the right nostril. Joseph S. Gibbs pled for an early diagnosis in the year 1911, knowing as he did that the removal of the growth in its early stages presented a much less complicated picture from surgical standpoint. In 1917 Coates contended that this type of growth might be multiple, citing a case with one tumor in the nasopharynx and the other in the right nasal chamber. S. G. Dabney in 1921 spoke of a case seen by him several years previously of the fibromucous type which had vomiting as the predominating symptom, the child having vomited nearly everything eaten for the previous two years. When he eructed, the polyp appeared in the mouth and presented the typical picture of a supernumerary tongue. It reached down from the nasopharynx into the esophagus and caused the vomiting which had produced a state of marasmus in the patient. Hall reported two cases successfully treated during that same year. Spilliberg of New York reports two cases in which nasopharyngeal tumors of this type were cured by surgery alone.

Nasopharyngeal fibroma must, in spite of the number of cases cited, be still considered a comparatively rare condition. Many men with large private practices have never seen a case and an even larger number have seen only one over a period of years.

Fibromata have several sites of origin. I believe that its most frequent point of origin is in the nasopharyngeal recess and next in frequency in the anterior sphenoidal wall. Again they are found attached to the nasal process of the occipital bone, pterygomaxillary recess, the sphenopalatine wall of the nasopharynx or one of the turbinates. They are found more often in males than females. The usual age of the victims varies from ten to twenty-five years of age.

The tumor may be in the form of a hard fibrous mass or may be so soft as to be mistaken for a large polyp. It is my impression that the younger the individual the more apt we are to encounter the fibrous type. It has a tendency to grow fairly rapidly and attach itself to adjacent structures from which it draws abundant blood supply. The nasal structures are distorted to suit the convenience of the tumor growth. The fibrous polypoid form alters nasopharyngeal structures by pressure but does not become so intimately a part of them. It may be encountered, as one man reports, while doing an ethmoid or sphenoid operation. The source of origin will often account for the distinct type and there may be gradations between the two. The fibrous type may offer different histological characteristics in the same tumor as to the amount of fibrous tissue, blood vessels and edematous swelling.

The most frequent symptom encountered is nasal obstruction. With break down or softening of the tumor, hemorrhage is found, at times almost to the point of exsanguination. Almost invariably if the tumor has grown to sufficient size to encroach on the sinus orifices there will be secondary sinusitis, the discharge varying from mucopurulent to foul and greenish. From the pressure of the tumor alone, which may invade the orbit, accessory sinuses or due to the secondary sinusitis, headache is often encountered.

Diagnosis is made by inspection of the nose after proper shrinking and by examination with the post nasal mirror. The more fibrous type might possibly be confused with fibrosarcoma but age would be a strong determining factor. The malignancies of this

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type that I have seen have been in middle aged individuals. In the more polypoid forms where the tumor is mixed with nasal polyps it is quite easy to overlook its presence. However, a careful stereoscopic X-ray may be helpful, particularly if we hold the possibility of fibroma in mind.

The treatment of these tumors in the early days was radical. Cases were not seen until in the advanced stages. The operator upon whose shoulders rested the responsibility for the case felt as though he had been singled out for special persecution by an unkind fate. He was afraid to operate and yet felt that something must be done. The nose was split, the palate separated and in some cases even the superior maxilla was resected. We are willing to agree with Dieffenback who said, "It requires great courage to undertake this operation because the surgeon is compelled to choose between one of three conditions. First, the choking to death of the patient during the operation, secondly, the bleeding to death of the patient at the time of operation as a result of tearing or cutting the growth out, or, thirdly, not finishing the operation at all."

The surgical procedure which has been most often used and which has best stood the test of enlarging experience is avulsion. The tumor is grasped as close to its attachment as possible and broken loose with a rocking motion, the idea being to pull away every possible connection. This method is claimed to produce a minimum amount of bleeding and the fewest recurrences. If in the nose this may be accomplished with a Koffler septum forceps or in the smaller growth with a Bruening forceps. If extending back into the nasopharynx or attached there additional manipulation may be obtained from inserting the finger in through the mouth. This procedure is obviously best adapted to removal of the fibrous type in the early stages or the polypoid form in any stage.

The first inkling of a newer method of treating the sessile type in an advanced stage, the form which was greatly feared by operators in the early years of this century, was shown by Delavan in 1915 who advised the use of radium. However, his ideas were very vague as were those of his colleagues.

In 1829 Fisher of New Orleans successfully treated a large nasopharyngeal tumor with implantation of radium needles, two radiations being required, although he found it necessary to electrocoagulate a few remaining areas after the use of Trichloracetic Acid at intervals following the second radiation.

I believe radium to be the solution to the problem of geting rid of this most fearful form and feel that the needles should be directly inserted into the mass, for the best results.

On August 28, 1933, I. M., male, age 20 years, of Barbourville, Kentucky, was seen in my office, referred by Dr. T. R. Davies of that city. He gave a history of obstruction to breathing for the past four years. The removal of adenoids gave no improvement. Of late he had had repeated profuse nose bleed from the right nostril, once becoming almost exsanguinated. For the past several months there had been a diffuse yellowish discharge from the right side of the nose. At the time of examination the patient had the waxy yellow color of a marked anemia.

The nasal mucous membrane was shrunk and a grayish red mass was found filling the posterior half of the right nostril. With a post nasal mirror a tumor the size of a small hen's egg was seen in the nasopharynx, a little more to the right than to the left side. Pus was oozing from between the tumor mass and septum in the right nostril. Owing to the typical appearance of the tumor and the general condition of the patient it was felt unnecessary to remove a piece for biopsy. The slight manipulation necessary to determine the extent of the growth caused profuse epistaxis which was controlled with difficulty. The patient was hospitalized and after preliminary cocainization five radium needles were inserted into the mass, three being placed in the nose and two in the nasopharynx, 40 milligrams being left in situ seven hours, giving a total of 280 milligram hours. There was copious hemorrhage on removal of the needles which required tight nasal packing to control. When seen again on October 19, 1933 there had occurred considerable shrinking of the mass. In the nasopharynx it was about one fourth smaller. A probe could be pushed on the floor of the right nostril under the tumor. The sinusitis had cleared up and the boy had experienced no hemorrhage.

27.5 milligrams of radium were inserted for 8.5 hours giving a dose of 233.75 milligram hours. Seen on January 9, 1934, there was still further shrinking. 50 milligrams were inserted for 7 hours giving 350 milligram hours. On March 24, 1934, needles totaling 30 milligrams were left in the nose for 9 hours giving 270 milligram hours. The patient was treated again on May 28, 1934, with one 12 milligram needle inserted in the nose for 10 hours giving a 120 milligram hour dose. The tumor in the nasopharynx at

this time was the size of a bird's egg and in the nose confined to the space just above the posterior nares. On August 3, 1934, the tumor was scarcely visible. A small amount of adenoid tissue was seen in the nasopharynx. A 5 milligram needle was left for 3 hours giving a 15 milligram hour dose. In January 1935 there was no trace of the growth either in the nose or nasopharynx.

I have the patient here for your inspection. You can see the distortion of the nasal chamber due to the pressure and actual invasion of nasal structures and subsequent destruction of the tumor.

My second case, E. C. D. of this city, age 37 years, was seen on March 2, 1935. He gave a history of recurring nasal polyps in his right nostril. These had been removed at various times but the nostril had not been completely open for a long time. Polyps extended to the anterior nares on the right side. An X-ray showed the right group of sinuses to be solid for all sinuses except the frontal. A radical antrum was performed on the right and following this the anterior ethmoids were exenterated. At this stage a polypoid mass was encountered completely filling the back part of the nose and presumably attached to the anterior wall of the sphenoid. It was grasped as close to what appeared to be its attachment as possible and rocked loose with a Bruening forcep. At the same time there was a gush of blood which was controlled by tightly packing the nose. Following this the operation was completed. Upon examination the growth was found to be the size of a large walnut and rather soft with a definite fibrous attachment. A pathological report by Dr. John Allen follows, "Specimen consists of a large polyp approximately the size of a small lemon, soft, smooth, translucent. Microscopical sections of the tumor show it to be composed of very loose connective tissue with scattering star shaped fibroblastic cells. The tissue is very oedematous, leaving large areas devoid of cells. There are scattering lymphocytes and eosinophiles beneath the epithelium. The tumor is avascular except in pedicle which is quite vascular. The lining epithelium is squamous. Sections show an œdematous mucous membrane, the stroma of which is of loose connective tissue, densely infiltrated with eosinophiles and polymorphonuclear leucocytes; a few cystic glands and dilated lymph spaces. Opinion—Benign polyp (Fibroma edematodes simplex)."

I have here an X-ray of the sinuses and also one showing the exact size of the tumor.

I am very much indebted to Dr. Robert L. Kelly for the use of his radium and his very kind advice and assistance in its use.

DISCUSSION

Gaylord C. Hall, Louisville: The two cases reported by Dr. Pryor do not seem to belong in the same category. My impression is that the first case was one of true nasopharyngeal fibroma while the second was a case of solitary polyp, which grows backward from the sinus and usually has its point of attachment in the antrum. Sometimes these growths extend over a considerable area. In one case in the practice of Dr. Dabney of this city it extended down into and partially obstructed the oesophagus. Solitary polyp is not attended by hemorrhage which is characteristic of nasopharyngeal fibroma.

There are several other outstanding characteristics of nasopharyngeal fibroma; namely, their rarity, their practical confinement to the male sex, and the fact that they are histologically benign and clinically malignant because of their tendency to attach themselves to important structures and interfere with the nerve supply of those structures. In some cases they are sarcomatous and thus become actually malignant. Another outstanding feature is their tendency to spontaneous retrogression after the age of 25. Their most troublesome symptom is their predilection to spontaneous hemorrhage, which is often so severe as to practically exsanguinate the patient.

I looked up my records on this subject and found that I have seen seven of these cases in the past thirty years. None of these has presented the typical frog-face deformity which often results from the lateral and forward pressure of the tumor. I have perhaps been very lucky in handling these cases. The first one I recall was probably a recurrence following a partial removal. This lad, sixteen or seventeen years old, was fairly husky and able to "take it," and by examination through the nose and nasopharynx we were able to outline the attachment of the growth fairly accurately. Under anesthesia I put my finger behind his palate and inserted it between the tumor and the posterior wall. Then with a Hurd tonsil dissector I separated the tumor as far as possible. Then with Knight's forceps, introduced through the nostril, I grasped the tumor and rocked it back and forth until finally it became dislodged and was removed. There was not much bleeding either at the time of operation or afterwards.

This case was typical of those I have seen, none of which was far advanced. In a case I saw recently with Dr. Hester the boy's features were beginning to assume a frog-face appearance. Dr. Hester removed the growth and

did not have much trouble from bleeding.

Dr. Pryor is right in his statement that when these growths show a tendency to bleed it is foolhardy to attempt to dislodge or morcellize the growth and take it out piece-meal, either with a wire snare or forceps. In such cases the patient should first be subjected to radium treatment. Where the tumor is small and well-defined and with little tendency to bleed I think enucleation is the operation of choice, but where it is large and shows a tendency to bleed my preference would be radium.

Shelton Watkins, Louisville: I recall Doctor Dabney's case, mentioned by Doctor Hall in his discussion. I cannot remember the pathological report in that case, but it is my impression that it was a typical naso-pharyngeal fibroma. I do not remember that radium was used with very good effect. Doctor Dabney was, I believe, the first to use radium in treating these new-growths. If not, he was certainly among the first few to use it.

I agree with Doctor Hall's opinion that Doctor Pryor's second case was probably a fibrous polyp. Nasopharyngeal fibroma is composed chiefly of loose connective tissue with many large blood spaces through it, which is not at all like the structure of a fibrous polyp. I have had two cases of large solitary polyp. One was as large as a hen's egg, and the other even larger. One came from the antrum and the other from the middle meatus in the region of the orifices of both the antrum and the anterior ethmoidal cells.

Undoubtedly, naso-pharyngeal fibroma is in some way connected with puberty. It occurs within a few years before or after then, and its structure resembles embryological tissue.

Professor Georges Portmann, of Bordeaux, has recorded a case which had nearly destroyed one side of the skull and was attached to the dura. All of the nasal sinuses on this side were destroyed; also, most of the nasal septum and the eye. When it was finally removed, the lower half of one side of the skull was practically a shell.

I favor the use of radium in these cases. It not only reduces the size of the tumor, but, also, decreases the bleeding at the time of the operation.

W. R. Pryor, (In closing): The question whether fibrous polyp and true nasopharyngeal fibroma are similar and have the same origin is one that has been discussed in the literature, pro and con, since the nineteenth century and the discussion is still going on. In their general appearance and effects they are entirely different but they both have a fibrous background.

THE COMMUNITY'S OBLIGATION TO THE CHILD*

J. C. Morrison, M. D.
Hickman.

In years to come when the history of this age is written by the impartial thinker, who at that distance of time may be able to gain a right perspective and may then be able to say which were the most striking features in social development, it may well turn out that he will point to the birth of the interest in Child Welfare as being among the events of first importance.

So let us take first things first. The world needs better men and women—good as those of the present generation may be. Let us begin with the young, the boys and the girls, keeping them in health, sobriety, integrity, virtuous manhood and womanhood of the noblest stamp.

We know it is the boys and the girls of today who make the men and women of tomorrow. The influence of unhealthy environment in childhood indeed, drags at life's larger impulses, hampers and stifles the desire for higher things. Socrates has said, "Only by learning to think aright we learn to do well." I believe that every community should give its deepest thought to this subject of child welfare so that it may be able to do its very best for the children, some who have been placed in the world under woefully unsatisfactory conditions.

Once it was recognized that the high rate of mortality among children was largely due to the ignorance of what was necessary for the health of the child. True, it is no new thought that, "Of all good gifts the best is health," But that the whole question should be viewed from the medical aspect and the medical aspect alone, is a mistake for the prevention of disease is more dependent on good environment than aught else. So let us view the situation from different standpoints. The child must develop physically, it must develop mentally and it must develop morally.

The physical effects of a wrongly developed childhood are: arrest of growth, puny, stunted stature, anemia, thin emaciated limbs, sunken cheeks and hollow eyes, and diseases of all kinds; of the lungs, of the joints, of the spine, for the arrest of development does not mean mere arrest but malformation.

The mental effects are likewise arrest of mental development; and this means, too, not only a stopping short but development in the wrong direction. The brilliant but short

*Read before the Child Health May Day Celebration, Hickman, May 1, 1935

lived intelligence of news boys, their sinister anticipation of world knowledge, their seeming ability to play the game of life on a par with adults—we laugh at and applaud; we do not look beyond the moment, nor count the cost they pay.

And the moral effects as is to be expected, are of the same character—loosening of family ties, roving the streets, familiarity with vice, and haunts of vice, a starting independence before the moral nature is fit to maintain independence, a process of selection so trying that while it sometimes leads those subjected to it to distinguished achievement, more often it leads to ruin.

Will Rogers says: "I am mighty glad so many people in America are taking up children's work. Being a ranchman and farmer, and also a child owner, I have often wished that when one of my children got sick I could wire some government expert and have him come and look after them, like I can if some of my cows or pigs get a disease."

Many of us could give up unnecessary comforts and conveniences and I hope that we would do so if necessary to the end that there be no undernourished children, and no lack of warmth and shelter, and let us not leave it all to the organizations. They are very valuable and necessary, but a little personal interest in the welfare of our children would be invaluable.

In safeguarding the education of the next generation you will not be purely altruistic. If you care for your own children you must take an interest in all, for your children must go on living in the same world made by all children.

There is no asset in the state that has greater value and broader potentialities than the childhood of the state. Even though rich in the various types of resources none of them surpass in value and greatness the boys and girls, or the hidden resources in the boys and girls. No one can accurately measure the potential value of any boy or girl to its community, state or nation.

In looking to the health and welfare of our children the starting place is often skipped; The Mother. Unless the mothers of the children are safeguarded and protected and helped so that their health is as near perfect as can be, it is difficult for the children to acquire that health which is their birthright. The mother's health comes first and the health of the household is added unto it. An overworked, nervous, sick mother cannot establish health in her household.

The demands made upon a mother are so great that no human endurance could hold out unless stimulated by the spirit of devotion and unselfishness, and even that has its physical basis, and unless the mother can have rest and spiritual stimulation she will break under the strain.

There are very few men workers that would accept the hours that a mother works. For her there is no time clock and she does not shun the more trying and back breaking tasks that come her way. All work within the household are hers, nursing, cooking, sewing, disciplining, training, cleaning, marketing and making social ends meet. All and more come in one day's stint. Unless some mothers are given help and advice about her own health, the health of the household flies out the window. Some of these situations are in the mother's hands and with a little advise she can program the day so as to allow a period of rest, which is very often necessary. She can train the children, at least some of them to carry their share of the work and responsibility. By becoming an administrator as well as a worker she can save much of her energy, have a more healthful household and be worth more to her family and to her community.

Just as we have wisely applied the findings of science to other fields, so must we apply them for the benefit of our children. I think that we will all agree that the health of our children is worth any price, and that in so far as the community can do so it should see to the environment of the child so that the water and food will be pure, and that they are not exposed to infectious disease, and that they get a normal amount of moral, mental and physical exercise.

May 1st has been observed as Child Health Day for about ten or twelve years. It has served a useful purpose in concentration for at least one day the thoughts of many upon the duties which we owe our children, but this year the importance of the day is greater than ever before because the pitifully reduced circumstances of many families has brought suffering and privation to many children. This places a great responsibility upon our communities. Either the communities will rise to their responsibility and discharge their duty, or America will suffer for generations to come. In the circumstances, society has a compelling obligation. The health of the mothers of the nation is the source of the health of the boys and girls. If the mother is ill the home is bound to be disorganized. She is the hub upon which the domestic circle revolves. It naturally follows that helping mothers is the most effective way of helping the whole family. For that reason the National Child Health Day Committee does well to stress the maternal angle of the present problem.

I am joined by our beloved health officer, his assistants and all welfare workers in an

appeal to the public conscience this May Day for the future of the race as it is personified in mothers and babies. They echo the old cry, expressive of the best ideals of manhood, "Women and children first." It is a stirring summons and will not be sounded in vain.

Among the rights of children are these: Regular health examinations, dental examinations, instructions in health and safety; adequate sleep, food,and play; guidance in choosing an occupation, some form of religious, moral and character training; protection against labor that stunts growth, either physical or mental, and limits education, that deprives children of the right comradeship, of joy and play. The extention of these services in the community should supplement and not supplant the parents.

THE CURE OF CROSSED EYES*

C. L. Woodbridge, B. A., M. D.

Eye, Ear, Nose and Throat Department
Guerrant Mission Clinic and Hospital
Winchester

Crossed eyes, otherwise known as esotropia, convergent squint or internal strabismus, a not infrequent condition, has in the past decade or two received an increasing amount of attention from ophthalmologists, and it has been demonstrated that the modern treatment of this distressing disfigurement has, in trained hands, yielded excellent results.

In opening this paper on the subject, I am reminded of the remark made to me some months ago by an eminent ophthalmologist in our nation's capital, that after his thirty years in eye work he thought he knew less of squint than he did when he began in the specialty. By this statement he probably meant that his experience had demonstrated to him the extreme complexity of the condition.

The discussion of squint could well lead us into its psychological aspects. We have all noticed that a large percentage of men of diminutive physical stature develop a defensive mechanism, and act and talk "big." So, an unfortunate with squint of noticeable degree is exposed to the danger of developing an inferiority complex, expressed either by obnoxious aggressiveness or by an intraversion. If for no other than cosmetic reasons with the attendant diminution of the danger of the development of psychological protective mechanisms, treatment of squint is indicated in a large number of persons in the United States.

Another real danger in this condition is the likelihood of the development of amblyopia ex anopsia in the squint ng eye. When squint develops, it is usual for the vision in the less-used eye to gradually fail, such failure proceeding gradually but steadily to a point where there is no longer useful vision in that eye. This condition may be said to be analogous to an atrophy from disuse and is termed amblyopia ex anopsia.

As yet the etiology of squint has not been definitely determined. It is probably caused by a malicious combination of circumstances. The most frequent form is internal strabismus, which is usually found in persons with hyperopia. On the other hand, most people with high degree of hyperopia do not have strabismus. There must be one or more contributory factors, a weak or absent fusion sense, a neuro-muscular imbalance, constitutional or psychic deficiency, which as yet have not been thoroughly understood. It is believed, such is the association between convergence and accommodation, that it is logical to assume in many cases that the excessive effort to accommodate causes an over-convergence resulting in squint.

Limiting our discussion to the internal type of strabismus: the onset is usually in infancy or childhood, when, in the natural development of the individual, he comes to use habitually his powers of accommodation At the onset of the squint, the vision in each eye may be about equal, and the child may use either eye alternately. However, it is usual that later he comes to use one eye exclusively with the gradual development of amblyopia ex anopsia in the other eye.

If the case in the child is seen soon after the squint has appeared, and retinoscopy under atropine performed and adequately strong lenses are prescribed and constantly worn, the excessive effort at accommodation is tremendously lessened, and concomitant over-convergence is reduced with probable straightening of the visual axes. Furthermore, even if the squint has been present for some time, and amblyopia ex anopsia has developed, it is well worth the effort to follow the above procedure, and occiude the good eye, in the hope of improving the vision in the amblyopic eye. It is generally stated that the sooner after squint develops the better the chances of improving the vision in the amblyopic eye. An effort should be made in most cases, and extending over a period of at least six weeks, for occasionally there may be a surprising improvement in vision in the amblyopic eye. It is a grave error in judgment to advise the parents of a squinting child to delay having the condition investigated, in the hope that the child may "grow out of" the condition. Very rarely indeed does such

*Read before the Clark County Medical Society.

a happy ending occur.

At the present time much work is being done with orthoptic training, to develop a weak fusion sense, strengthen inadequate muscles and render parallel or more nearly parallel the visual axes. As yet, there is no unanimity of opinion as to the final value of such training, some maintaining that the beneficial limits have not been appreciated fully, others claiming that such training should be merely an adjunct to operation. While such controversies are still raging, it is wise to take the middle course and use the exercises with the hope that operation may be avoided, and if such hope is not realized to use the exercises to improve the operative result, if possible, and to maintain binocular single vision. Of course, there are cases in which orthoptic training is useless, for example in adults with gross evidence of amblyopia ex anopsia, where operation is done for purely cosmetic reasons.

A steady advance has been made in the cure of squint, not only in the non-operative treatment, but in the operative as well. When prolonged study has demonstrated the fact that operation is necessary, further delay is inadvisable. Some years ago the operation for straightening crossed eyes consisted of severing the tendon of one of the internal recti. Fortunately this method is now sinking into desuetude, as time showed that while in some cases it gave good results, nevertheless in others a divergence resulted later, with the final condition worse than the original. Depending upon the degree of squint, correction may require one or more of the following operations:

(1) Recession of one or both internal recti, in which the tendon is severed near the globe and sutured to the sclera at a point from three to six millimeters posterior to the site of insertion.

(2) Recessions of the interni plus resection of part of one or both externi.

(3) Recessions of the interni with tucking of the externi.

(4) Advancement of one or both externi plus recessions.

It is inadvisable to attempt too much at one time, because although it is known approximately how much each procedure will do to remedy the squint, nevertheless the final result cannot be evaluated exactly before operation, due to variations in muscular structure, neuro-muscular coordination, etc.

Recession alone leads to but little local reaction. An eye patch should be worn for four or five days, but the patient may be allowed up the day following the operation. After tucking or advancement the local reaction is somewhat greater, due to the increased tension of the muscle operated upon, but soon subsides. The convalescence is somewhat longer. If there has been slightly under-correction the temporary use of a cycloplegic is indicated, as by putting accommodation under abeyance convergence is diminished.

Operation is done under general anesthesia in children, but in young people and adults it may be done under local anesthesia. The results certainly justify the time, thought and effort expended. To have a part in performing one of the near-miracles that modern medicine and surgery occasionally permit each one of us to do, furnishes a thrill that is one of the most enjoyable emoluments of the art of healing.

BOOK REVIEW

OBJECTIVE AND EXPERIMENTAL PSYCHIATRY by D. Ewen Cameron, M. B., Ch. B., D. P. M. The Macmillan Company, New York, publishers; price $3.00.

The purpose of this book is to bring together in readily accessible form the natural evolution of a science toward quantitative methods, toward experimentation as the main method of fact finding.

The unregarded errors inherent in purely observational and "projectionistic" methods of obtaining knowledge are examined and in part their consequent effect upon present psychiatric concepts is traced. The organism is treated as an integrated whole, and consequently methods of evaluating behaviour whether they are based on changes at the psychological, physiological or structural level are examined. The methods, techniques and results are reviewed.

CLINICAL MANAGEMENT OF SYPHILIS, a Handbook for Everyday Practice, by Alvin Russell Harnes, M. D., Chief of Congenital Leutic Clinic, New York Hospital. The Macmillan Company, New York, publishers, price $3.00.

This book is unique in that the author has outlined the treatment of the various forms of syphilis giving the day-by-day and week-by-week tables of medication for a period of three years. The practitioner is thus able to follow a definite course of treatment using either arsphenamin, neosalvarsan or sulpharsphenamin and other drugs as indicated. Preceding each chapter is a concise explanation of reasons for the various forms of treatment used. It will prove a most valuable handbook in everyday practice.

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NEXT MEETING LOUISVILLE
September 30, October 1, 2, 3, 1935

COUNTY SOCIETY REPORTS

Madison: The Madison County Medical Society was host for the 10th District Meeting Thursday, May 16th.

The meeting was called to order by the president, C. B. Marcum, at 2 p. m. in the Federal Court Room, 3rd floor of the Post Office Building.

The president called for new business to come before the society. He then issued a cordial welcome in behalf of the society to all the guests present for the district meeting for which Madison County Medical Society was host.

A delightful dinner was had at the Glyndon Hotel between the afternoon and evening sessions of the meeting. The local entertainment committee consisting of O. F. Hume, Gradie Rowntree and J. B. Floyd served appropriate refreshments in the parlors of the hotel preceding the dinner.

Exactly 85 were present at the dinner. 81 signed the register which was passed in the meeting but I think there were at least a dozen men who did not have an opportunity to sign as the register was started late in the session.

There were a great many compliments about the meeting by the guests and it seemed the unanimous opinion that it was probably the best in the state to date.

Program 2 P. M.

Differential Diagnosis of Pulmonary Tuberculosis—O. O. Miller, M. D., Louisville.

Discussion—E. J. Murray, M. D. Lexington, and J. B. Floyd, M. D., Richmond.

Diarrhea In Infancy—James Bruce, M. D., Louisville.

Discussion—R. J. Estill, M. D., Lexington, and L. C. Coleman, M. D., Richmond.

Some Phases of Obstetrics—Alice Pickett, M. D., Louisville.

Discussion—Scott D. Breckenridge, M. D., Lexington, and J. H. Rutledge, M. D., Richmond.

Goiter Problem—W. I. Hume, M. D., Louisville.

Discussion—Francis Massie, M. D., Lexington, and O. F. Hume, M. D., Richmond.

Dinner, 6 p. m., Presbyterian Church.

Evening Program

Common Diseases of Ano-Rectal Region—M. H. Pulskamp, M. D., Louisville.

Discussion—Rufus Alley, M. D. Lexington, and Fred Rankin, M. D., Lexington.

Compulsory Health Insurance—V. E. Simpson, M. D., Louisville.

Discussion—John Scott, M. D., Lexington, and V. G. Kinnaird, M. D., Lancaster.

Meeting closed by Dr. C. A. Vance, councilor for the district, who presided at the evening session, at 10:15 p. m.

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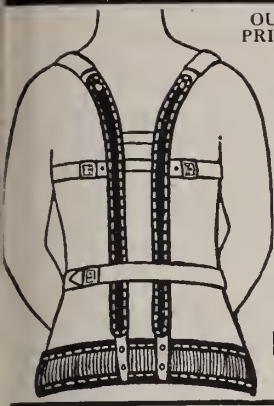
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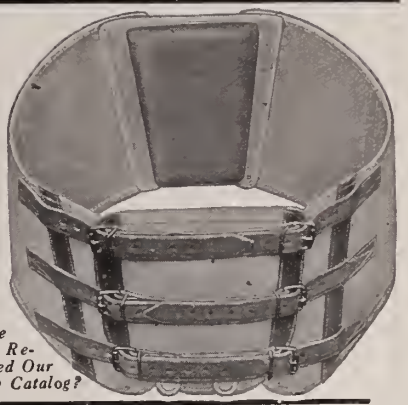
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KENTUCKY MEDICAL JOURNAL

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● One question commonly asked concerning canned foods is whether or not the contents of the can should be removed to another container immediately after opening. This question has its origin in the belief that if food is allowed to remain in the can after opening, it will absorb an injurious substance from the can and thus become hazardous to the health of the consumer.

For this belief there is not the slightest foundation of fact. Its origin probably lies in the old "ptomaine" concept of food poisoning. Why it should persist in the light of present day knowledge is a mystery. The belief that food must be emptied immediately from the can has been as thoroughly discredited as the "ptomaine" theory of food poisoning (1).

Food poisoning is usually caused by the ingestion of food containing certain bacteria or their metabolic products. It is, in most instances, the direct result of improper preparation, handling, or storage of food (2) (3).

We have previously described in these pages how all canned foods are subjected to thorough heat treatment which destroys not only pathogenic bacteria and their products, but also the most resistant organisms which may cause spoilage. Consequently, the freshly opened can is the cleanest container in the average kitchen.

There is, therefore, no reason from the standpoint of food poisoning why the food must be removed immediately after the can is opened. In addition, food will spoil no faster or no slower in the open can than in any other open container. The same precautions should be used in its preservation as are used for any other cooked food.

With certain foods, it is desirable from the standpoint of quality to remove the food from the can. Such foods, usually those of an acidic nature, may act slowly on the can after air is admitted and small amounts of tin and iron may be absorbed. The traces of these metals have been shown by a Government laboratory to be entirely innocuous (3), but iron in particular may impart a slight taste to the food.

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AMERICAN CAN COMPANY

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(1) Journal American Medical Association, 90, 469, 1573 (1928)

(2) Preventive Medicine and Hygiene, M. J. Rosenau, Appleton-Century Co., N. Y. 6th Edition

(3) Food-Borne Infections and Intoxications, F. W. Tanner, Twin City Printing Co., Champaign, Illinois

This is the fourth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



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Waukesha, Wis.

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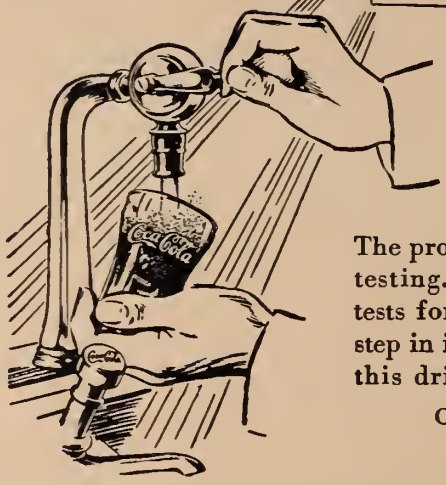
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COUNTY	SECRETARY	RESIDENCE	DATE 1935
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Allen	A. O. Miller	Petroleum	September 25
Anderson	J. B. Lyon	Lawrenceburg	September 2
Ballard	F. H. Russell	Wickliffe	September 10
Barren	Paul S. York	Glasgow	September 18
Bath	H. S. Gilmore	Owingsville	September 9
Bell	R. F. Porter	Middlesboro	September 13
Boone	R. E. Ryle	Walton	September 18
Bourbon	W. B. Hopkins	Paris	September 19
Boyd	R. G. Culley	Ashland	September 3
Boyle	P. C. Sanders	Danville	September 10
Bracken	J. M. Stevenson	Brooksville	September 2
Breathitt	Frank K. Sewell	Jackson	September 17
Breckinridge	J. E. Kincheloe	Hardinsburg	September 12
Bullitt	S. H. Ridgeway	Shepherdsville	September —
Butler	G. E. Embry	Morgantown	September 4
Caldwell	W. L. Cash	Princeton	September 3
Calloway	W. H. Graves	Murray	September 5
Campbell-Kenton	Luther Bach	Bellevue	September 5-19
Carlisle	J. F. Dunn	Arlington	September 3
Carroll	J. M. Ryan	Carrollton	September —
Carter	W. S. Hawn	Grayson	September 10
Casey	Wm. J. Sweeney	Liberty	September 26
Christian	M. A. Gilmore	Hopkinsville	September 17
Clark	R. E. Strode	Winchester	September 20
Clay	J. L. Anderson	Manchester	September —
Clinton	S. F. Stephenson	Albany	September 21
Crittenden	C. G. Moreland	Marion	September 9
Cumberland	W. F. Owsley	Burkesville	September 4
Daviess	I. A. Thorpe	Owensboro	September 10-24
Elliott	W. H. Joyner, Act. Sec.	Sandy Hook	
Estill	Walter Cox	Irvine	September 11
Fayette	John Harvey	Lexington	September 10
Fleming	C. W. Christine	Flemingsburg	September 11
Floyd	J. G. Archer	Allen	September 25
Franklin	W. S. Snyder, Jr.	Frankfort	September 5
Fulton	J. C. Morrison	Hickman	September 11
Gallatin	J. M. Stallard	Sparta	September 19
Garrard	J. E. Edwards	Lancaster	September 19
Grant	C. A. Eckler	Dry Ridge	September 18
Graves	H. H. Hunt	Mayfield	September 3
Grayson	C. F. Blankenship	Leitchfield	September 26
Green	S. J. Simmons	Greensburg	September 2
Greenup	C. W. Monroe	Greenup	September 13
Hancock	F. M. Griffin	Hawesville	September 2
Hardin	D. E. McClure	Elizabethtown	September 12
Harlan	W. R. Parker	Harlan	September 21
Harrison	W. B. Moore	Cynthiana	September 2
Hart	S. F. Richardson	Munfordville	September 3
Henderson	Walter O'Nan	Henderson	September 9-23
Henry	Owen Carroll	New Castle	September 30
Hickman	Chas. Hunt	Clinton	September 5
Hopkins	David L. Salman	Madisonville	September 5
Jackson			September 7
Jefferson	Uly H. Smith	Louisville	September 2-16
Jessamine	J. A. VanArsdall	Nicholasville	September 19
Johnson	P. B. Hall	Paintsville	September 14
Knott	M. F. Kelley	Hindman	September 28
Knox	T. R. Davis	Barbourville	September 27
Larue	D. W. Gaddie	Hodgenville	September —
Laurel	Oscar D. Brock	London	September 11
Lawrence	W. C. Gose	Louisa	September 16
Lee	W. D. McCullom	Beattyville	September 14
Leslie	John H. Kooser	Hyden	September —
Letcher	R. Dow Collins	Whitesburg	September 24
Lewis	J. D. Liles	Vanceburg	September 16
Lincoln	Lewis J. Jones	Houstonville	September 20
Livingston	Wm. C. Davis	Salem	September —
Logan	Walter Byrne, Jr.	Russellville	September 4
Lyon	H. H. Woodson	Eddyville	September 3
McCracken	Leon Higdon	Paducah	September 25
McCreary	R. M. Smith	Stearns	September 2
McLean	G. L. Thompson	Calhoun	September 12
Madison	Lewis C. Coleman	Richmond	September 19

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Marion	W. A. Resteen	Lebanon	September —
Marshall	S. L. Henson	Benton	September 18
Mason	Allen F. Murphy	Maysville	September 11
Meade	A. A. Baxter	Brandenburg	September 26
Menefee	E. T. Riley	Frenchburg	September —
Mercer	J. Tom Price	Harrodsbnrg	September 10
Metcalfe	P. W. Bushong	Edmonton	September —
Monroe	E. S. Dunham	Tompkinsville	September —
Montgomery	D. H. Bush	Mt. Sterling	September 10
Morgan	W. H. Wheeler	Betsy Sayne	September —
Muhlenberg	G. L. Simpson	Greenville	September 10
Nelson	R. H. Greenwell	Bardstown	September 18
Nicholas	T. P. Scott	Carlisle	September 16
Ohio	Oscar Allen	McHenry	September 4
Oldham	S. J. Smock	LaGrange	September 3
Owen	K. S. McBee	Owenton	September 5
Owsley	D. E. Wilder	Booneville	September 2
Pendleton	W. A. McKenney	Falmouth	September 11
Perry	R. L. Collins	Hazard	September 9
Pike	M. D. Flanary	Pikeville	September 2
Powell	W. Johnson	Stanton	September 2
Pulaski	M. C. Spradlin	Somerset	September 12
Robertson			September 16
Rockcastle	Lee Chestnut	Mount Vernon	September —
Rowan	A. W. Adkins	Morehead	September 9
Russell	B. Scholl	Jabes	September 9
Scott	F. W. Caudill	Georgetown	September 5
Shelby	W. E. Morris	Shelbyville	September 19
Simpson	N. C. Witt	Franklin	September 10
Spencer			
Taylor	W. B. Atkinson	Campbellsville	September 5
Todd	E. E. Boone, Jr.	Elkton	September 4
Trigg	H. L. Wallace	Cadiz	September 25
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	September 25
Warren	Hal Neal	Bowling Green	September 11
Washington	J. H. Hopper	Willisburg	September 18
Wayne	R. E. Teague	Monticello	September 5
Webster	C. M. Smith	Dixon	September 27
Whitley	C. A. Moss	Williamsbnrg	September 5
Wolfe	G. M. Center	Campton	September 2
Woodford	Chas. F. Voigt	Midway	September 5

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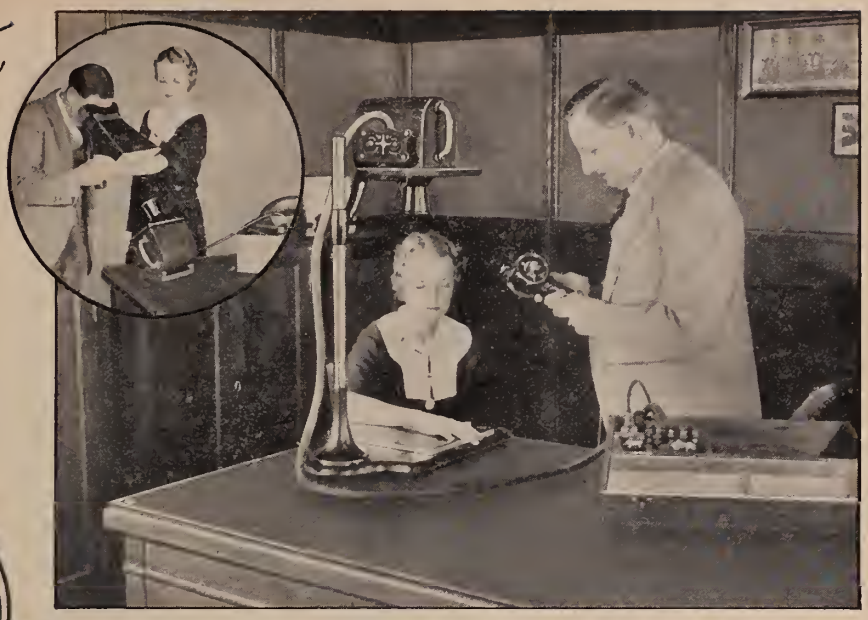
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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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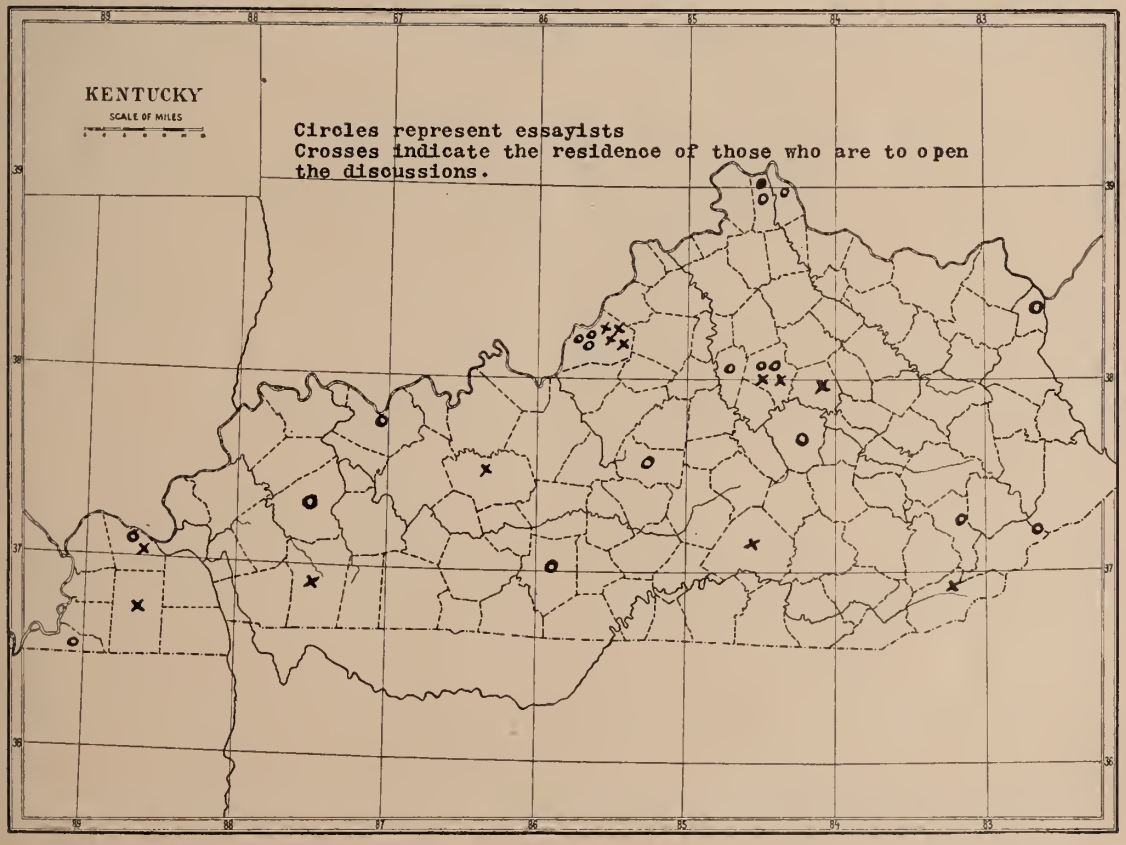
KENTUCKY STATE MEDICAL MEETING

Elsewhere in this issue of the JOURNAL appears the program for the meeting of the Kentucky State Medical Association to be held in Louisville, September 30th to October 3, 1935. The Program Committee for this meeting has indeed been fortunate in securing as essayists prominent physicians and surgeons throughout the State, whose subjects will represent a balanced survey of the most important recent advances in medical endeavor. And, since these essayists have been requested to keep in mind the needs of the general practitioner, it is felt that no member of the Association can well afford to miss the opportunity of attending a meeting which, as the Program Committee believes, will constitute a brief post-graduate course.

One objective of the committee has been to select the essayists in such a manner that all sections of the state would have representatives and that no one locality would be unduly represented. That this geographical objective has been attained, the accompanying outline map of the state will reveal, indicating as it does, the home county of each essayist and of those who will open the discussions.

Then, too, several innovations have been introduced. Formerly, the first hour on the opening day has been devoted to the address of welcome, the response to that address, and to various announcements. Instead of these opening exercises, however, which have been generally poorly attended, five outstanding members have been asked to present snappy case reports limited to ten minutes each. Another new arrangement will be the Clinico-Pathological Conference to be held a part of one afternoon at the Louisville City Hospital.

It has seemed appropriate that the his-



torical background of the Kentucky State Medical Association should be emphasized. For this reason the 1935 Session will be known as the "William L. Sutton Memorial Meeting" in honor of the first President of the Association, of whom a brief biography will be embodied in the printed program. In this respect, also, the present Program Committee ventures to suggest that subsequent meetings honor the other Presidents of the State Association in rotation.

While not exactly a secret, may we repeat here something of what we have heard concerning the arrangements being made by the Entertainment Committee. No, it wouldn't be fair to tell you too much. Come and see.

THE LEAGUE OF CHRISTIAN PHYSICIANS

As has been its custom for the past several years the League of Christian Physicians, under the Presidency of Dr. Philip F. Barbour, will hold its session at the Warren Memorial Presbyterian Church, at the corner of Fourth Street and Broadway, on Sunday evening, September 29th.

The speaker this year will be Dr. Felix Underwood, State Health Officer of Mississippi. Dr. Underwood was President of the Mississippi State Medical Association in 1919; he was Chairman of his Council for ten years; he has been chairman of the National Malaria Committee and President of the Conference of State and Provincial Health Authorities of North America. He is a Fellow of the American College of Physicians; a member of the Board of Directors and Consulting Medical Director of the Standard Life Insurance Company of Jackson, Mississippi. He is a graduate of the Medical Department of the University of Tennessee and practiced medicine in Monroe County, Mississippi, for fifteen years. For seven years he was the part-time health officer of that county and for three years was its first full-time health officer.

Dr. Underwood is one of the most forceful public speakers in the medical profession. He has remarkable charm and personal magnetism. His addresses are marked by simple directness and sincerity of expression. He has the marked courtesy of the typical Southern gentleman, the courage to meet any issue and the unlimited confidence of the medical profession of Mississippi and the South.

The relationship between the medical profession and its public health authorities in



Dr. Felix Underwood

Mississippi are very similar to those in Kentucky and Dr. Underwood will address us and our people in language which we can easily understand.

The Journal extends its congratulations to Dr. Barbour and his associates in their selection of this outstanding medical statesman.

CONCERNING THE MEETING

The Jefferson County Medical Society will be hosts to the 1935 Session of the Kentucky State Medical Association. The various committees have been appointed and the following chairmen chosen:

Committee on Arrangements

E. L. Henderson, Chairman
Irvin Abell, Reception
Guy Aud, Meeting Place
A. L. Bass, Golf
W. E. Gardner, Ladies' Auxiliary
G. S. Hanes, Hotels
C. W. Hibbitt, Automobile
Walter Hume, Clinical
A. Clayton McCarty, Publicity
J. H. Pritchett, Entertainment
Frank Stites, Finance
J. B. Lukins and A. T. McCormack, Advisory.

Meetings have been held and plans have been completed for a great meeting. Probably the most elaborate and extensive program ever offered will be presented.

For your entertainment and pleasure

banquets, luncheons, smokers and theatre parties have been arranged. The usual golf tournament will be held at the Audubon Club. Bring your clubs, also your alibis, for you may need the latter.

We expect from seventy-five to eighty per cent of the total membership of the State Association to be present for one or more days. Make your plans to attend. You cannot afford to miss this outstanding session. Dr. Horine has arranged a program that is very extensive, instructive and of interest to every doctor in Kentucky. The last day of the meeting will be one of the best.

The guest speaker, Dr. Sumner Koch, of Chicago, an outstanding surgeon and brilliant speaker, will be with us at our annual banquet. He will present a subject of interest to the profession.

The ladies will not lack for pleasure and entertainment, and a special committee, of which Dr. Gardner is chairman, has been appointed to this end. Also, a Women Physicians' Committee has been formed. This will undoubtedly add to the profit and pleasure of the lady physicians.

Let me urge you to attend, assuring you that it will be well worth your while to renew your old acquaintances, to hear of new methods of procedure, improved technique, and the latest in general.

If we can give any service, such as hotel reservations, etc., write at once to James H. Pritchett, M. D., Louisville.

STATE ADVISORY COMMISSION ON SOCIAL SECURITY

Governor Laffoon has appointed a State Advisory Commission on Social Security. This Commission has selected Dr. A. T. McCormack, Secretary of the State Medical Association and Editor of the JOURNAL as its Chairman.

Sub-committees have been selected to study and discuss the plans under the different titles of the Act, which include old age pensions, unemployment insurance, child welfare, maternal and child health, public health, crippled children, pensions for the blind, and other allied subjects.

Dr. McCormack has asked the Council of the State Medical Association and the Committee on Medical Economics to act as advisory members of the sub-committee in the section pertaining to public health, maternal and child health, crippled children and pensions for the blind. In addition to this, he has asked the Committee on Public Relations to act as an advisory sub-committee on public health. He has requested Drs. Philip F. Barbour, James H. Pritchett, R. Julian Estill, of Lexington, L. H. Winans, of Ashland, and T. J. Marshall of Paducah, to act as an advisory committee on pediatrics. Drs. W. T. McConnell, Alice N. Pickett, L. T. Minish, of Frankfort, Scott Breckinridge, of Lexington, and S. P. Oldham, of Owensboro, have been asked to act as an advisory committee on maternal and child health. He has requested Dr. W. Barnett Owen to be chairman of the Advisory Committee on Crippled Children, and Drs. Harry Goldberg, Orville R. Miller, Robert L. Woodard, Richard T. Hudson, of Louisville; W. M. Brown and Charles Garr, of Lexington, and Dr. M. D. Garred, of Ashland are the members. Dr. Adolph O. Pfingst has been requested to act as chairman of the Advisory Sub-committee on the Blind and Drs. Bledsoe, of Covington, H. D. Abell, of Paducah, W. A. Weldon, of Glasgow, and M. L. Gunn, of Harlan, have been asked to act as members of this sub-committee.

It will interest the profession of the State to know that the plans and regulations under which all of the standards for this work will be set-up were formulated with the approval of the official members of the American Medical Association. There seems to exist some misapprehension that there is to be a federalized or standardized service imposed upon the States by the Social Security Act. Nothing could be farther from the truth. Each state submits and controls its own plan and all the rules and regulations are made by conferences of representatives of the State and the Federal Government has nothing to do with the selection of personnel or tenure of office. The medical profession of Kentucky may congratulate itself that the plans adopted are those that have been found acceptable to it throughout the past fifty years. The responsibility for public health in these United States is going to be placed squarely on the shoulders of the medical profession and we know from our experience in Kentucky that this will mean better public health and medical service for all of the people.

AN INNOVATION

The Committee on Scientific Work, in cooperation with Dr. John Walker Moore, the Dean of the Medical Department of the University of Louisville, and his associates and faculty, is arranging for a series of clinical conferences for the Thursday afternoon session of the Association. This plan has been tried in a number of other states and those

of our members who have attended them have found them to be of the utmost practical value. We are particularly emphasizing this feature of the program so that as many of our members as possible will arrange to be present at these valuable scientific conferences, which will be held on the last afternoon of the Annual Session.

PROPOSED FEDERAL FOOD AND DRUG BILL

Since the spring of 1933, there has been pending before Congress a new Federal Food and Drug Bill.

The Seventy-fourth Congress now in session, has been considering a bill introduced by Senator Copeland. This bill passed the Senate in May, 1935. Entering the House, it was placed before the Committee on Interstate and Foreign Commerce.

Kentucky has been signally honored in the appointment by the Chairman of this Committee of Honorable Virgil Chapman of Kentucky as the Chairman of the Sub-Committee, which is considering at the present writing, this Federal Food and Drug Act.

During July, Dr. A. T. McCormack, State Health Commissioner, and Secretary of the Kentucky State Medical Association, and Mrs. F. C. Dugan, Director of the Bureau of Foods, Drugs and Hotels of the State Department of Health, appeared before this Committee, urging the early passage by Congress of a strengthened Federal Food and Drugs Law.

The need of the new food and drug law was emphasized by President Roosevelt, in a message to Congress a few months ago. "A measure is needed," he said, "which will extend the controls, formerly applicable only to labels, to advertising also; which will extend protection to the trade in cosmetics; which will provide for a cooperative method of setting standards and for a system of inspection and enforcement, to reassure consumers grown hesitant and doubtful; and which will provide for a necessary flexibility in administration, as products and conditions change." In concluding his message, the President said:

"The great majority of those engaged in the trade in food and drugs do not need regulation. They observe the spirit as well as the letter of the existing law. Present legislation ought to be directed, primarily, toward a small minority of invaders and chiselers. At the same time, even-handed regulation will not only outlaw the bad practices of the few, but will also protect the many from unscrupulous competition. It will, besides, provide a bulwark of consumer confidence throughout the business world.

"It is my hope that such legislation may be enacted at this session of the Congress."

The Food and Drug Bill now being considered by Honorable Virgil Chapman's Committee, will give to consumers new and additional protection such as is not now possible under the present law.

It prohibits false advertising of foods, drugs and cosmetics.

It regulates the sale of cosmetics, requiring truthfulness in labeling and outlawing those injurious to health.

It prohibits, to a greater extent and under closer control than under existing laws, traffic in foods which are dangerous to health.

It bans the use of poisonous containers for food.

It requires adequate sanitation of establishments handling and manufacturing foods, drugs and cosmetics.

It proscribes deceptive and slack-filled packages of foods and drugs.

It brings devices used as curative or preventive agents under the same regulations as drugs.

It provides for the regulation, for the protection of the consumer, of dangerous drugs and drugs subject to deterioration.

It makes provision for a Committee on Public Health to aid and advise the Secretary of Agriculture in promulgating regulation for the protection of the health of the public. It also provides for a Committee on Food Standards.

These committees, advisory in nature, are to be appointed by the President. The Public Health Committee is to consist of five members, designated without regard to political affiliation and with a view solely to scientific attainment and interest in public health, as it relates to foods, drugs or cosmetics. The Committee on Food Standards is to have a membership of seven—three representing the public, two representing the food industry and two from the Food and Drug Administration. Members of the Public Health Committee and those members of the Food Standards Committee who represent the public are all prohibited from having any financial interest in the food, drugs or cosmetics industry.

It is believed that when the Copeland Bill, S. 5, is passed by the Congress, it will be amended so as to permit the seizure, without restrictions, of foods, drugs and cosmetics which are so misbranded as to be grossly deceptive.

The bill, as passed by the Senate, provides

that only one seizure may be made of an alleged misbranded product, unless the enforcing officials can prove that the product is so misbranded as to render it imminently dangerous to health or such misbranding has been the basis of prior judgment in favor of the United States. This provision greatly limits the protective effects of the pending law in preventing the removal from the market of grossly misbranded products, which may not in themselves be "imminently" dangerous to the health of the consumer, but which would be valueless in the conditions indicated by the labeling.

The Copeland Bill, S. 5, as passed by the Senate and now before the Congress, will, if enacted into law, give to the consumer much needed added protection. Its principles and intent are the same as those contemplated in previous bills which have been introduced by Senator Copeland, which the Medical Association of Kentucky has fully endorsed.

This bill will pass Congress only if consumers and those interested in its passage get behind the measure whole-heartedly and sincerely.

INTER-STATE POSTGRADUATE MEDICAL ASSOCIATION OF NORTH AMERICA

The International Assembly of the Inter-State Postgraduate Medical Association of North America will be held in the beautiful Masonic Temple, Detroit, Michigan, October 14, 15, 16, 17 and 18, 1935, with pre-assembly clinics on Saturday, October 12 and post-assembly clinics Saturday, October 19, in the Detroit Hospitals.

The Association through its officers and members of the program committee extends a very cordial invitation to all physicians in good standing in their State and Provincial Medical Societies to attend the Assembly. An unusual clinical and didactic program including all branches of medicine and surgery and the specialties has been arranged by the program committee.

In cooperation with the Wayne County Medical Society and the Michigan State Medical Society and with the active support of the Detroit Convention and Tourist Bureau and the Detroit Board of Commerce, a most excellent opportunity for an intensive week of postgraduate medical instruction is offered by a very large group of acknowledged leaders in the profession.

With a great deal of pride and satisfaction, we call your attention to the list of distinguished teachers and clinicians who will take part on the program which appears on page xxiv of the advertising section of this journal.

Registration fee of $5.00 admits all members of the profession in good standing.

The officers of the Association are as follows:

Dr. Charles H. Mayo, President, Rochester, Minn.

Dr. George Crile, Chairman, Program Committee, Cleveland, Ohio.

Dr. William B. Peck, Managing-Director, Freeport, Ill.

MEET THE VICE-PRESIDENTS

Robert Lee Collins, M. D.

Clay County, Kentucky, has the honor of contributing two Vice-Presidents to the Kentucky State Medical Association, Dr. B. F. Robinson and Doctor Robert Lee Collins.

Dr. Collins was born in Clay County, the



son of A. J. and Margaret Elkins Collins. He was educated in the Public Schools of Clay County, and Oneida Institute and Berea College. In 1903 he entered the University of Louisville, graduating in 1907. For ten years he practiced in Hyden, Kentucky and from August 1917 to August 1919 he served in the A. E. F. He resumed his practice in Hazard, Kentucky, in 1919 and with Dr. A. M. Gross established the Hazard Industrial Hospital. He makes a specialty of Surgery.

R. T. Layman, Elizabethtown



Dr. R. T. Layman was born on a farm near Howes Valley, Hardin County, June 19, 1873.

He received his elementary education in the public schools of Hardin County and taught in the public schools for six years. He then attended East Lynn College for two years receiving a B. S. degree. He afterwards received the A. B. degree from Kenyon College, and became vice-president of this college.

He was common school examiner for Hardin County for a period of eight years, and president of the Hardin County Institute one year.

He later attended the University of Louisville, Medical Department, graduating in 1910, in the first class after the consolidation of all the medical schools in Louisville.

He located at Cecilia, and was there for twelve years, removing to Elizabethtown, where he has been in the practice for thirteen years.

He has been Secretary and also President of the Hardin County Medical Society. also President of the Muldraugh Hill Medical Society and is at present Vice-President of the Kentucky State Medical Association.

Dr. Layman is at present chairman of the City School Board of Elizabethtown, and has held this position for the past five years. He is a director of the Kentucky Children's Home Society, Lyndon.

B. F. Robinson, M. D., Lexington

Dr. B. F. Robinson was born in Clay County on September 21, 1883. He received his early education in the public schools of his native county and Berea College.

He received his medical degree from the Medical Department, University of Louisville, June 30, 1909.

He served as chief surgeon Byambong Hospital, Byambong, P. I., District surgeon, Iloilo, P. I., and chief surgeon Bontoc Hospital Division, Bontoc, P. I. In 1915 Dr. Robinson organized and conducted a private Hospital in Berea. In 1927 he moved to Lexington where he now lives and limits his practice to surgery.

For sixteen consecutive years Dr. Robinson has attended the Mayo Clinics.

In 1932 he was appointed District Surgeon for the L. & N. Railroad Company in Central and Eastern Kentucky, and Eastern Virginia and Eastern Tennessee.

In 1934 Dr. Robinson received a fellowship degree from the Southeastern Surgical Congress and is at present president of the Cumberland Valley Association of Railway Surgeons.



OFFICIAL ANNOUNCEMENTS

PRELIMINARY PROGRAM FOR THE EIGHTY-FIFTH ANNUAL SESSION OF THE KENTUCKY STATE MEDICAL ASSOCIATION, BROWN HOTEL, SEPTEMBER 30, OCTOBER 1, 2, 3, 1935

Installation of President.

Report of Committee on Arrangements.

1. Presentation of Clinical Cases:
 a. Pylorospasm in an Adult, James R. Stites, M. D., Louisville.
 b. Presentation of a Patient with Fracture of the Neck of the Femur treated by the Key Method; R. Glenn Spurling, M. D., Louisville.
 c. A Case of Intractable Pain Relieved by Cardotomy; George A. Hendon, M. D., Louisville.
 d. Resection of the Kidney for Localized Pyonephrosis; Frederick G. Speidel, M. D., Louisville.
 e. Case of Hypoparathyroidism; Charles E. Gaupin, M. D., Louisville.
2. Evaluation of the Newer Methods in Handling Pulmonary Tuberculosis; Ernest B. Bradley, M. D., Lexington.
3. Indications and Contra-Indications for Blood Transfusions; C. A. Morris, M. D., Covington.
4. Coronary Thrombosis: Differential Diagnosis with Note on Angina Abdominis; George H. Gregory, M. D., Versailles.
5. Symposium on Obstetrics:
 a. Obstetrical Analgesia and Anesthesia; Scott Breckinridge, M. D., Lexington.
 b. Resuscitation of the New-Born.
 c. Post-Puerperal Treatment; A. W. Davis, M. D., Madisonville.
6. Arachnoidism and Treatment; David L. Jones, M. D., Fulton.
7. Emergency Management of Fractures; B. F. Wright, M. D., Seco.
8. Hemolytical Reactions following the use of Arsphenamines; Murray L. Rich, M. D., Covington.
9. Pediatric Therapeutics; Gordon S. Buttorff, M. D., Louisville.
10. Ocular Manifestation of Systemic Diseases; Harry D. Abell, M. D., Paducah.
11. Discussion of Contract Practice; H. W. Nyce, M. D., Jeff.
12. Recent Trends in the Treatment of Pyelitis; Lewis C. Coleman, M. D. Richmond.
13. Treatment of Oral Infections from the Standpoint of the Dentist.
14. Social Trends in Medicine; J. D. Northcutt, M. D., Covington.
15. Oto-laryngology for the General Practitioner; Harry Stambaugh, M. D., Ashland.
16. Diet in Relation to Abdominal Infections; W. A. Ristcen, M. D., Lebanon.
17. Evaluation of Various Disinfectants and Antiseptics in the Preparation of the Skin for Surgery; Clifton G. Follis, M. D., Glasgow.
18. Modern Management of Tumors of the Breast; J. Duffy Hancock, M. D., Louisville.
19. Clinico-Pathological Conference.

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J. B. Acton, M. D., Glasgow,
A. D. Steely, M. D., Bardstown,
A. M. Leigh, M. D., Louisville,
J. P. Wyles, M. D., Cynthiana,
Carl Norfleet, M D., Somerset,
R. L. Collins, M. D., Hazard,
W. H. Pennington, M. D., London.

COMMITTEE ON PHYSIOTHERAPY:
Virgil E. Simpson, M. D., Louisville, Chairman,
Scott Breckinridge, M. D., Lexington,
Wm. T. Briggs, M. D., Lexington,
W. M. Brown, M. D., Lexington,
Robert L. Biltz, M. D., Newport,
H. C. Herrmann, M. D., Louisville,

D. Y. Keith, M. D., Louisville,
Orville Miller, M. D., Louisville,
Lee Palmer, M. D., Louisville,
Fred W. Rankin, M. D., Lexington,
Winston U. Rutledge, M. D., Louisville.

OFFICIAL CALL

THE EIGHTY-FIFTH ANNUAL MEETING OF THE KENTUCKY STATE MEDICAL ASSOCIATION TO BE HELD IN THE BALL ROOM OF THE BROWN HOTEL LOUISVILLE

To the Officers and Members of the Component County Societies of the Kentucky State Medical Association.

The Eighty-fifth Annual Meeting of the Kentucky State Medical Association will convene in the Ball Room Monday, Tuesday, Wednesday and Thursday, September 30, October 1, 2, 3, 1935.

THE HOUSE OF DELEGATES

The House of Delegates of the Kentucky State Medical Association will convene in Parlors A, B, and C at 2 p. m. and at 7:30 p. m. in Ball Room, on Monday, September 30, 1935.

FIRST GENERAL SESSION

The First General Session which constitutes the opening exercises of the scientific function of the Association will be held in the Ball Room, Tuesday, October 1, at 9 a. m.

THE COUNCIL

The Council will convene in the Brown Hotel Monday, September 30, at 10:30 a. m.

THE REGISTRATION DEPARTMENT

The Registration Department will be open in the South Room from 10 a. m. to 5 p. m., on Monday, September 30; from 8 a. m. to 5 p. m., on Tuesday and Wednesday, October 1 and 2, and from 8 a. m. to 12 m., on Thursday, October 3, 1935.

COUNCILOR DISTRICTS

FIRST DISTRICT
V. A. Stilley, Benton, Councilor.

Ballard	Hickman	Fulton
Caldwell	Livingston	Graves
Calloway	McCracken	Lyon
Carlisle	Marshall	
Crittenden	Trigg	

SECOND DISTRICT
D. M. Griffith, Owensboro, Councilor.

Daviess	Hopkins	Ohio
Hancock	McLean	Union
Henderson	Muhlenberg	Webster

THIRD DISTRICT
C. C. Turner, Glasgow, Councilor.

Allen	Cumberland	Simpson
Barren	Logan	Todd
Butler	Monroe	Warren-Edmonson
Christian	Metcalfe	

FOURTH DISTRICT
J. 1. Greenwell, New Haven, Councilor.

Breckinridge	Hardin	Meade
Bullitt	Hart	Nelson
Grayson	Larue	Spencer

FIFTH DISTRICT
C. W. Dowden, Louisville, Councilor.

Carroll	Gallatin	Shelby
Oldham	Henry	Trimble
Franklin	Jefferson	Owen

SIXTH DISTRICT
W. B. Atkinson, Campbellsville, Councilor

Adair	Green	Taylor
Anderson	Marion	Washington
Boyle	Mercer	

SEVENTH DISTRICT
V. G. Kinnaird, Lancaster, Councilor.

Casey	Lincoln	Rockcastle
Clinton	McCreary	Russell
Garrard	Pulaski	Wayne

EIGHTH DISTRICT
C. W. Shaw, Alexandria, Councilor

Boone	Grant	Pendleton
Bracken	Harrison	Robertson
Campbell-Kenton	Mason	
Fleming	Nicholas	

NINTH DISTRICT
S. O. Smith, Ashland, Councilor

Boyd	Greenup	Martin
Carter	Johnson	Magoffin
Elliott	Lewis	Pike
Floyd	Lawrence	

TENTH DISTRICT
C. A. Vance, Lexington, Councilor

Bath	Lee	Morgan
Bourbon	Madison	Rowan
Breathitt	Menifee	Scott
Clark	Montgomery	Wolfe
Fayette	Owsley	Estill
Jessamine	Powell	Woodford

ELEVENTH DISTRICT
H. K. Buttermore, Liggett, Councilor

Bell	Knott	Leslie
Clay	Knox	Perry
Harlan	Laurel	Whitley
Jackson	Letcher	

CONSTITUTION AND BY-LAWS OF THE KENTUCKY STATE MEDICAL ASSOCIATION ADOPTED AT PADUCAH IN 1902 AS AMENDED.

CONSTITUTION

ARTICLE I. NAME OF THE ASSOCIATION

The name and title of this organization shall be the Kentucky State Medical Association.

ARTICLE II. PURPOSE OF THE ASSOCIATION

The purpose of the Association shall be to federate and bring into compact organization the entire medical profession of the State of Kentucky, and to unite with similar associations in other states to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science, to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interest and to the enlightenment and direction of public opinion in regard to the great problem of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III. COMPONENT SOCIETIES

Component societies shall consist of those

county medical societies which hold charters from this Association.

ARTICLE IV. COMPOSITION OF THE ASSOCIATION

Section 1. This Association shall consist of Members, Delegates and Guests.

Sec. 2. MEMBERS. The members of this Association shall be the members of the component county medical societies.

Sec. 3. DELEGATES. Delegates shall be those members who are elected in accordance with this Constitution and By-laws to represent their respective component county societies in the House of Delegates of this Association.

Sec. 4. GUESTS. Any distinguished physician not a resident of this State may become a guest during any Annual Session upon invitation of the Association or its Council, and shall be accorded the privileges of participating in all of the scientific work of that session.

ARTICLE V. HOUSE OF DELEGATES

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1) Delegates elected by the component county societies, (2) *ex-officio,* the officers of the Association as defined in Article VIII, Section 1, of this Constitution, and (3) the five immediate past presidents.

ARTICLE VI. SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interest of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII. SESSIONS AND MEETINGS

Section 1. The Association shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each annual session shall be fixed by the House of Delegates.

ARTICLE VIII. OFFICERS

Section 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and eleven Councilors.

Sec. 2. The President and Vice-Presidents shall be elected for a term on one year. The Secretary, Treasurer and Councilors shall be elected for terms of five years each, the Councilors being divided into classes so that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The officers of the Association shall be elected by the House of Delegates on the morning of the last day of the Annual Session but no Delegate shall be eligible to any office named in the preceding section, except that of Councilor, and no person shall be elected to any such office who is not in attendance upon the Annual Session, and who has not been a member of the Association for the past two years.

ARTICLE IX. FUNDS AND EXPENSES

Funds for meeting the expenses of the Association shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publication. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Session, for publication and for such other purposes as will promote the welfare of the Association and profession.

ARTICLE X. REFERENDUM

The General Meeting of the Association may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote; and if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question and be binding upon the House of Delegates.

ARTICLE XI. THE SEAL

The Association shall have a common Seal with power to break, change or renew the same at pleasure.

ARTICLE XII. AMENDMENTS

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the Previous Annual Session, and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

BY-LAWS

CHAPTER I. MEMBERSHIP

Section 1. All members of the Component County Societies shall be privileged to attend

all meetings and take part in all the proceedings of the Annual Session, and shall be eligible to any office within the gift of the Association. PROVIDED, that no physician may become a member of any county society unless he signs and keeps inviolate the following pledge:

I hereby promise upon my honor as a gentleman that I will not so long as I am a member of the Kentucky State Medical Association practice division of fees in any form; neither by collecting fees from others referring patients to me nor by permitting them to collect fees from me; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I in any way, directly or indirectly, compensate anyone referring patients to me nor will I utilize any man as an assistant as a subterfuge for this purpose.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the Annual Session in the respective bodies of this Association.

Sec. 3. No persons who are under sentence or suspension or expulsion from any component society of this Association, or whose name has been dropped from its rolls of membership shall be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings, until such time as he has been relieved of such liability.

Sec. 4. Each member in attendance at the Annual Session shall enter his name on the registration book indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of the society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

CHAPTER II. ANNUAL AND SPECIAL SESSION OF THE ASSOCIATION

Section 1. The Association shall hold an annual session, meeting every third year in the city of Louisville, and the other two years at some point in the State fixed at the preceding annual session.

CHAPTER III. GENERAL MEETING

Section 1. The General Meeting shall include all registered members, delegates and guests, who shall have equal rights to participate in the proceedings and discussions: and except guests, to vote on pending questions. Each General Meeting shall be presided over by the President or in his absence or disability or upon his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President, and the annual orations and the entire time of the sessions as far as may be, shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The General Meeting shall have authority to create committees or commissions for scientific investigation of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Association except those of the President and orators shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

Sec. 5. All papers read before the Association shall be its property. Each paper shall be deposited with the Secretary when read and if this is not done it shall not be published.

CHAPTER IV. HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Association and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Association, or with the meeting held for the address of the President and the annual orations and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the association and profession require, it may meet in advance or remain in session after the final adjournment of the General Meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every twenty-five members, and one for each major-fraction thereof, but each county society holding a charter from this Association,

which has made its annual report and paid its assessments as provided in this Constitution and By-Laws shall be entitled to one delegate. In case the regularly elected delegate or alternate is unable to attend the annual meeting of the Association, the President of the county society may in writing appoint an alternate, who shall have the rights and privileges of a delegtae.

Sec. 3. A majority of the registered delegates shall constitute a quorum and all of the meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each Annual Session a stepping stone to further ones of higher interest.

Sec. 5. It shall consider and advise as to the material interest of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the State who can be made reputable, has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate work in medical centers as well as home study and research and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. With these ends in view, five years after the adoption of the By-Laws, no voluntary paper shall be placed upon the annual program nor be heard in the Association which has not first been read in the county society of which the author is a member.

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body, in such manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 9. It shall upon application provide and issue charters to county societies organized to conform to the spirit of the Constitution and By-Laws.

Sec. 10. In sparsely settled sections it shall have authority to organize the physicians of two or more counties to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies and these societies, when organized and chartered shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

Sec. 11. It may divide the counties of the State into Councilor Districts, and, when the best interests of the Association and profession will be promoted thereby, organize in each district a medical society, to meet midway between the annual session of the Association and members of the chartered county societies and none other shall be members.

When so organized from the presidents of such district societies shall be chosen the Vice-Presidents of this Association and the Presidents of the county societies of the district shall be Vice-Presidents of such district societies.

Sec. 12. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such committee may report to the House of Delegates in person, and may participate in the debate thereon.

Sec. 13. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

Sec. 14. It shall present a summary of its proceedings to the last General Meeting of each Annual Session, and shall publish the same in the JOURNAL.

CHAPTER V. ELECTIONS OF OFFICERS

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, provided, however, that when there are more than two nominees the nominee receiving the least number of votes on the first ballot shall be dropped and the balloting continue until an election occurs in like manner.

Sec. 2. Any member known to have directly or indirectly solicited votes for, or sought any office within the gift of this Association shall be ineligible for any office for two years.

Sec. 3. The election of officers shall be

the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

Sec. 4. Nominations for President shall be called for by counties.

CHAPTER VI. DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office and so far as practicable, shall visit by appointment, the various sections of the State and assist the Councilors in building up the county societies and in making their work more practical and useful.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or removal the Council shall elect one of the Vice-Presidents to succeed him.

Sec. 3. The Treasurer shall give bond for the trust imposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the association, together with the bequests and donations. He shall, under the direction of the House of Delegates, sell or lease any real estate belonging to the Association and execute the necessary papers, and shall in general subject to such direction, have the care and management of the fiscal affairs of the Association. He shall pay money out of the Treasury only on written order of the President, countersigned by the Secretary; he shall subject his accounts to such examinations as the House of Delegates may order, and he shall annually render an account of his doings and of the state of funds in his hands.

The Council shall be the executive body of the House of Delegates and between sessions shall exercise the powers conferred on the House of Delegates by the Constitution and By-Laws.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the program for and attend all meetings of the Association and of the House of Delegates and he shall keep minutes of their respective proceedings in separate record books. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him. He shall be custodian of all record books and papers belonging to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual sessions. He shall keep a card index register of all local practitioners of the State by counties, noting on each his status in relation to his county society and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notify members of meetings, officers of their election, and committees of their appointment and duties. He shall act as secretary of the Committee on Scientific Work. He shall be editor of the KENTUCKY MEDICAL JOURNAL. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of his time to his duties which will permit of his becoming proficient it is desirable that he shall receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

CHAPTER VII. THE COUNCIL

Section 1. The Council shall hold daily meetings during the annual session of the Associations and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of the Annual Session of the Association for re-organization and for the outlining of the work for the ensuing year. At this meeting it shall elect a chairman and secretary and it shall keep a permanent record of its proceedings. It shall through its Chairman, make an annual report to the House of Delegates at such time as may be provided, which report shall include an audit of the account of the Secretary and Treasurer and other agents of this Association, and shall also specify the character and cost of all the publications of the Association during the year, and the amounts of all other property belonging to the Association, or under its control, with such suggestions as it may deem necessary. In the event of a

vacancy in any office the Council may fill the same until the annual election.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each Annual Session of the House of Delegates. The necessary traveling expenses incurred by Councilor in the line of his duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the Annual Session of the Association.

Sec. 3. Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies or to this Association. All questions of an ethical nature brought before the House of Delegates of the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or a county society upon which appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Association in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council. as such.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association and shall have authority to appoint such assistants to the editors as it deems necessary. It shall manage and conduct the KENTUCKY MEDICAL JOURNAL, which is the organ of the association, and all money received by the JOURNAL, the Council or any officer of the Association, shall be paid to the Treasurer of the Association on the first of each month.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers read before the Association shall be referred to the KENTUCKY MEDICAL JOURNAL for publication. The editor, with the consent of the Councilor for the District in which he resides, may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the Annual Session shall be within the control and direction of the Council.

CHAPTER VIII. COMMITTEES

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.
A Committee on Public Relations.
A Committee on Medical Education.
A Medico-Legal Committee.
A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members of which the President-elect shall be a member and Chairman and the Secretary shall be a member and Secretary, and shall determine the character and scope of the scientific proceedings of the Association, subject to the provisions or the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented which shall be adhered to by the Association as nearly as practicable.

Sec. 3. The Committee on Public Relations shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforcing legislation in the interest of the public health and scientific medicine. It shall keep in touch with the profession and public opinions, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence in local, state and national affairs and elections. Its work shall be done with dignity becoming a great profession and with that wisdom which will make effective its work and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such times as may be arranged during the annual session.

Sec. 4. The Committee on Arrangements shall consist of the component society in the territory in which the annual session is to be held. It shall by committees of its own selection, provide suitable accommodations for

the meeting-places of the Association and of the House of Delegates, and of their respective committees and shall have general charge of all arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program and shall make additional announcements during the session as occasion may require.

Sec. 5. The Medico-Legal Committee shall consist of three members, one of whom, the Chairman, shall be elected by the Council for five years, and the Secretary and Treasurer shall be the other two members *ex-officio*. This committee shall select and fix the compensation for an attorney, who shall act as General Counsel, and if required, additional local counsel. The Association through this Committee shall defend its members who are in good standing against unjust suits for malpractice.

CHAPTER IX. ASSESSMENTS AND EXPENDITURES

Section 1. The assessment of five dollars per capita on the membership of the component societies is hereby made the annual dues of this Association. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, lists of delegates, and list of non-official physicians of the county to the Secretary of this Association on the first day of January in each year.

Sec. 2. Any county society which fails to pay its assessments, or make the report required, on or before the first day of April in each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates.

CHAPTER X. RULES OF CONDUCT

The Principles set forth in the Principles of Ethics of the American Medical Association shall govern the conduct of members in their relation to each other and to the public.

CHAPTER XI. RULES OF ORDER

The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XII. COUNTY SOCIETIES

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws shall upon application to the House of Delegates, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists friendly overtures and concessions shall be made with the aid of the Councilor of the District if necessary and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Association, every reputable and legally registered physician who is practicing, or who will agree to practice non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of the county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, which upon a majority vote may permit him to become a member of an adjacent county society.

Sec. 7. In hearing appeals, the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual councilors in district and county work, effort at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another

county in the State, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living in or near a county line may hold membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material conditions of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferences shall be unstintingly given to such members.

Sec. 12. At the time of the annual election of officers each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association in the proportion of one delegate to each twenty-five members or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association at least sixty days before the Annual Session.

Sec. 13. The Secretary of each county society shall keep a roster of its members and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Association, on the first day of January of each year, or as soon thereafter as possible, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 14. The Secretary of each county society shall report to the Kentucky Medical Journal full minutes of each meeting and forward to it all scientific papers and discussions which the society shall consider worthy of publication.

Chapter XII. Amendments

These By-Laws may be amended by any Annual Session by a two-thirds vote of all the delegates present at that session, after the amendment has been laid on the table for one day.

CONSTITUTION AND BY-LAWS FOR COUNTY SOCIETIES

Prepared by the Committee on Organization of the American Medical Association of which the late Dr. J. N. McCormack was Chairman

Article I. Name and Title of the Society

The name and title of this organization shall be the ———————— County Medical Society.

Article II. Purpose of the Society

The purpose of this society shall be to bring into one organization the physicians of ———————— County, so that by frequent meetings and full and frank interchange of views they may secure such intelligent unity and harmony in every phase of their labor as will elevate and make effective the opinions of the profession in all scientific legislative, public health, material and social affairs, to the end that the profession may receive that respect and support within its own ranks and from the community to which its honorable history and great achievements entitle it; and with other county societies to form the ———————— State Medical Association, and through it, with other state associations, to form and maintain the American Medical Association.

Article III. Eligibility

Every legally registered physician residing and practicing in ———————— County who is of good moral and professional standing and who does not support or practice, or claim to practice, any exclusive system of medicine, shall be eligible for membership.

Article IV. Meetings

Regular meetings shall be held at such time and place as may be determined by the Society.

Special meetings may be called by the President and shall be called on a written request of five members. A call for a special meeting shall state the object of such meeting, at which no business except that stated in the call shall be transacted.

ARTICLE V. OFFICERS

The officers of this Society shall consist of a President, Vice-President, Secretary, Treasurer, Delegates and Board of three Censors. These officers, except the Delegates and Board of Censors, shall be elected annually. Delegates shall be elected for two years, and in accordance with the constitution and by-laws of the state association. One member of the Board of Censors shall be elected each year to serve for three years, provided that at the first election after the adoption of this constitution one member of the Board shall be elected for one year, one for two, and one for three years.

ARTICLE VI. FUNDS AND EXPENSES

Funds for meeting the expenses of the Society shall be raised by annual dues, special assessments and voluntary contributions. Funds may be appropriated by vote of the Society for such purposes as will promote its welfare and that of the profession.

ARTICLE VII. CHARTER

The Society shall apply to the council of the state association for a charter at the meeting at which this constitution and by-laws is adopted, or as soon thereafter as practicable, and the charter shall be kept by the Secretary.

ARTICLE VIII. INCORPORATION

The Society shall have authority to appoint a Board of Trustees and to provide for articles of incorporation whenever it may deem this necessary.

ARTICLE IX. AMENDMENTS

The Society may amend any article of this constitution by a two-thirds vote of its members at any regular meeting, provided that such amendment or amendments are not in conflict with the laws and regulations of the state association; provided, also, that such amendment shall have been read in open session at a previous regular meeting and shall have been sent by mail to each member ten days in advance of the meeting at which final action is to be taken.

BY-LAWS

CHAPTER I. MEMBERSHIP

Section 1. The Society shall judge of the qualification of its members, but as it is the only door to the State Medical Association and to the American Medical Association for physicians within its jurisdiction, every reputed and legally qualified physician of ————County who does not support or practice or claim to practice, sectarian medicine shall be eligible to membership.

Sec. 2. A candidate for membership shall make application in writing and shall state his age, his college and date of graduation, the place in which he has practiced, and the date of registration in this state. The application must be accompanied by the admission fee and must be endorsed by two members of this Society. It shall be referred to the Board of Censors, who shall inquire into the standing of the applicant, assure themselves that he or she is duly registered according to the laws of the state, and report at the next regular meeting of this Society. Election shall be by ballot, and two thirds of the votes of the members present and voting shall be necessary to elect. The application shall be returned to the Secretary, who shall file it for future reference. Applications for membership from rejected candidates shall not be received within six months of such rejection.

Sec. 3. A physician, accompanying his application with a transfer card from another component county society of this or any state within 60 days of the issuance of said card, shall be admitted without fee on a majority vote of the members present, and without the application being referred to the Board of Censors. Such application may be acted on at the meeting at which it is presented on the vote of three fourths of the members present, otherwise it shall lie over until the next regular meeting. No annual dues for the current year shall be charged against such members provided the same have been paid to the Society from which the applicant comes.

Sec. 4. A physician residing in an immediately adjoining county may become a member of this Society in like manner and on the same terms as a physician living in this county, on permission of the county society of the county in which the applicant lives.

Sec. 5. A member in good standing who is free from all indebtedness to this Society, and against whom no charges are pending wishing to withdraw, shall be granted a transfer card. This card shall state the date the member associated himself with the Society, the date of issuance of the card, and shall be signed by the President and Secretary. It shall be accompanied with a copy of the application presented at the time the member joined the Society, for information to the Society to which the member desires to attach himself.

Sec. 6. All members shall be equally privileged to attend all meetings and take part in all proceedings, and shall be eligible to any office or honor within the gift of the Society so long as they conform to this constitution and by-laws, including the payment of dues.

A member who is under sentence of suspension or expulsion shall not be permitted to take part in any of the proceedings or be eligible to any office until relieved of such disability. And, provided further, that none of the privileges of membership shall be extended to any person not a member of this Society except on a majority vote of the Society in regular meeting.

Sec. 7. A member who is guilty of a criminal offense or of gross misconduct either as a physician or as a citizen, or who violates any of the provisions of this constitution and by-laws, shall be liable to censure, suspension or expulsion. Charges against a member must be made in writing and be delivered to the Secretary, who shall immediately furnish a copy to the accused and to the Chairman of the Board of Censors. The Board of Censors shall investigate the charges on their merits, but no action shall be taken by the Board within ten days of the presentation of the charges to the accused, nor before giving the accused and accusers ample opportunity to be heard. The board shall report (1) that the charges are not sustained; or (2) that the charges are sustained and that the accused be (a) censured; (b) suspended for a definite time, or (c) expelled. Censure or suspension shall require a two-thirds vote of the members present and voting and a three-fourths vote of those present and voting shall be required to expel a member. No action shall be taken by the Secretary in such cases until at least six weeks have elapsed since the filing of the charges. A member suspended for a definite time shall be reinstated at the expiration of the time.

Sec. 8. Kindly efforts in the interest of peace, conciliation or reformation, so far as possible and expedient, shall precede the filing of formal charges affecting the character or standing of a member, and the accused shall have opportunity to be heard in his own defense in all trials and proceedings of this nature.

Sec. 9. Members expelled from this Society for any cause shall be eligible for membership after one year from date of expulsion and on the same terms and in like manner as original applicants.

CHAPTER II. POWERS AND DUTIES

Section 1. This Society shall have general direction of the affairs of the medical profession of the county, and its influence shall be constantly exerted to better the scientific, material and social condition of every physician within its jurisdiction. Systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every reputable physician in the county.

Sec. 2. A meeting shall be held at——— p. m. on the ——————— in each month (or oftener), ———members shall constitute a quorum.

The officers and committee on program shall profit by experience and by example of other similar societies, and strive to arrange for the most attractive and successful proceedings for each meeting. Crisp papers and discussion and reports of cases shall be arranged for and encouraged, and tedious and profitless proceedings and discussions shall be avoided as far as practicable.

Sec. 3. Agreements and schedules for fees shall not be made by this Society, but at least one meeting during each year shall be set apart for a discussion of the business affairs of the profession of the county, with the view of adopting the best methods for the guidance of all. In all proper ways the public shall be taught that business methods and prompt collections are essential to the equipment of the modern physician and surgeon and that it suffers even more than the profession when this is not recognized.

Sec. 4. This Society shall endeavor to educate its members to the belief that the physician should be a leader in his community, in character, in learning, in dignified and mannerly bearing, and in courteous and open treatment of his brother physicians, to the end that the profession may occupy that place in its own and the public estimation to which it is entitled.

CHAPTER III. OFFICERS

Section 1. The Officers of the Society shall be elected at the December meeting in each year which shall be known as the annual meeting. Nominations shall be made by informal ballot, and all elections be by ballot. The vote of the majority of all the members present shall be necessary to an election.

Sec. 2. The President shall preside at the meetings of the Society, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession in the county during the year, and it shall be the pride and ambition to leave it in better condition as regards both scientific attainments and harmony than at the beginning of his term of office.

Sec. 3. The Vice-President shall assist the President in the performance of his duties, shall preside in his absence, and on his death, resignation or removal from the county, shall succeed to the presidency.

Sec. 4. The Secretary shall record the minutes of the meetings and receive and care

for all records and papers belonging to the Society, including its charter. He shall notify each member of the Society as to the time and place of each meeting, and, whenever possible, give the program for the meeting. He shall keep account of and promptly turn over to the Treasurer all funds of the Society which may come into his hands. He shall make and keep a list of the members of this Society in good standing, noting of each his correct name, address, place and date of graduation, and the date of the certificate entitling him to practice medicine in this state; and in a separate list he shall note the same facts in regard to each legally qualified physician in this county not a member of this Society. It shall be his duty to send a copy of such lists, on blank forms furnished him for that purpose, to the Secretary of the state association at such times as may be designated by the state association. In making such lists he shall endeavor to account for each physician who has moved into or out of the county during the year, stating when possible, both his present and past address. At the same time, and with his report of such lists of members and physicians, he shall transmit to the state association his order on the Treasurer for the annual dues of the Society.

Sec. 5. The Treasurer shall receive all dues and money belonging to the Society from the hands of the Secretary or members, and shall pay out the same only on the written orders of the President, countersigned by the Secretary.

Sec. 6. The Delegates shall attend and faithfully represent the members of this Society and the profession of this county in the House of Delegates of the state association, and shall make a report of the proceedings of that body to this Society at the earliest opportunity.

Chapter IV. Committees

Section 1. There shall be a Board of Censors as provided in the constitution, a Standing Committee on Program and Scientific Work, a Committee on Public Health and Legislation, and such special committees as may from time to time be deemed necessary.

Sec. 2. Board of Censors. This Board shall examine and report on the qualification of applicants for membership subjecting each applicant to such examination as it may deem necessary. It shall investigate charges preferred against a member, and report its conclusions and recommendations to the Society. In case of the absence of a member of the Board, the President may appoint some member to fill the vacancy. The senior member of the Board in point of service shall be Chairman of the Board.

Sec. 3. Committee on Program and Scientific Work. This Committee shall consist of the President, Vice-President and Secretary. It shall be the duty to promote the scientific and social functions of the Society by arranging attractive programs for each meeting and by urging each member to take part in the scientific work. It shall stimulate fraternalism and good feeling among the members in every way possible. (Provisions should be made in this Section for annual luncheons, dinners, etc., which the Committee believes to be an excellent way to bring members together. Such occasions should be made as inexpensive as possible).

Sec. 4. Committee on Public Health and Legislation. This committee shall consist of three members who shall be appointed annually by the President. It shall be its duty to enforce and support the sanitary and medical laws of the state in this county, to co-operate with the Committee on Public Policy and Legislation of the state association in all matters pertaining to legislation, and to prosecute quacks and medical pretenders in this county.

Chapter V. Funds and Expenses

Section 1. The admission fee, which must accompany the application, shall be $——— and shall include the annual dues for the fiscal year. The admission fee shall be returned if the applicant is not accepted.

Sec. 2. The annual dues shall be $——— and shall be payable on January 1 of each year. Any member who shall fail to pay his annual dues by April 1 shall be held as suspended without action on the part of the Society. A member suspended for non-payment of dues shall be restored to full membership on payment of all indebtedness. Members more than one year in arrears shall be dropped from the roll of members.

Sec. 3. The fiscal year of this Society shall be from January to December inclusive.

Chapter VI. Order of Business

The order of business shall be as follows:

1. Call to order by the President.
2. Reading of the minutes of last meeting.
3. Clinical cases.
4. Papers and discussions.
5. Unfinished business.
6. Miscellaneous business.
7. Announcements.
8. Adjournment.

Chapter VII. Rules of Order

The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rule of Order, unless

otherwise determined by vote.

CHAPTER VIII. THE PRINCIPLES OF MEDICAL ETHICS

The Principles of Medical Ethics of the American Medical Association shall govern this Society.

CHAPTER IX. AMENDMENTS

These by-laws may be amended at any regular meeting by a two-thirds vote of, provided that such amendment has been read in open session at the preceding regular meeting and a copy of the same has been sent to each member by the Secretary ten days in advance of the meeting at which final action is to be taken.

REPORT OF THE BUSINESS MANAGER

To the House of Delegates:

Following the usual policy of the JOURNAL, every article received from the members of the Association has been published with the exception of the material for the next issue.

The JOURNAL publishes all articles read before the State Association and County Societies, and the Extension Course, and by special arrangement papers read before the Medico-Chirurgical Society, all County Society Programs, verbatim report of the House of Delegates and Scientific Sections, full proceedings of the Eye, Ear, Nose and Throat Section, news items, book reviews, index and the Forum. This last item is reserved for discussion and is a point of view column open to any member of the Association.

A stenographer is furnished for the annual meeting of the Eye, Ear Nose and Throat Section and their entire proceedings are each year published in the August JOURNAL.

The following figures give a detailed summary of the contents of the JOURNAL:

	1934	1935
Editorials	54	64
Scientific Editorials	3	2
Official Announcements	20	26
Original Articles	126	121
County Society Reports	81	46
Pages of Reading Matter	599	664
Pages of Advertising	262	328

OUR ADVERTISERS

Our advertising pages are gradually inceasing but have not yet reached the amount to make the Journal self-sustaining. The Association has assumed this loss and has not curtailed or abridged any of its activities. Much financial aid can be given if every reader of the JOURNAL will give careful attention to the advertising pages and specify the products where practical of those firms in our advertising pages.

A careful perusal of these pages is recommended as a post graduate course in newer products so essential in modern medicine. If each member of our Association would write a letter to these firms commenting on their products and use them when practical, it would greatly encourage our advertisers.

LEAGUE OF CHRISTIAN PHYSICIANS

This League was organized in 1932 and held its first meeting at the Warren Memorial Church, Louisville, on Sunday evening preceding the general session. Dr. Howard A. Kelly, America's great Christian Physician and Surgeon, spoke and the spacious auditorium of this magnificent church was filled. At the Murray meeting Dr. L. E. Smith, Executive Secretary Kentucky Tuberculosis Association, spoke in the Christian Church. All the churches united in this meeting. So enthusiastic was the audience at this meeting Dr. Smith was requested to speak at the Harlan meeting.

This year at the Warren Memorial Church on Sunday, September 29, Dr. Felix Underwood, State Health Officer of Mississippi, will speak. More details of this meeting are given in the editorial columns of this issue. Dr. Philip Barbour, President of the League, has been untiring in his efforts to make the League a success. Conferences were arranged with the Ministerial Association in each place of meeting, and everything has been done to make each meeting of value to the people in the community.

LIST OF EXHIBITORS AT 1935 MEETING

Medical Protective Company, Wheaton, Illinois.

C. V. Mosby Company, St. Louis, Mo.

Dick X-ray Company, Louisville.

Horlick's Malted Milk Company, Racine, Wis.

Mellin's Food Company, Boston, Mass.

Gilliland Laboratories, Marietta, Pa.

J. A. Majors Company, New Orleans, La.

Mead Johnson & Co., Evansville, Ind.

E. R. Squibb & Sons, New York, N. Y.

Gerber Products Company, Fremont, Mich.

Brooks Denhard Surgical Instrument Co., Louisville.

Theodore Tafel, Louisville.

FINANCIAL STATEMENT

The cost for mailing and printing the JOURNAL during 1934 was $7,938.70. The revenue from advertisements and sale of JOURNALS was $5,410.69, making a deficit of $2,528.01.

A much more favorable report can be

given for this year. The cost was $7,899.34, and the income $6,500.00, making a deficit of $1,399.37, which is $1,228.64 less than the deficit of 1934.

If the advertising pages increase in the same proportion next year as this year, the JOURNAL will be again published without any expense to the Association.

Respectfully submitted,
L. H. SOUTH, M. D.

WOMEN PHYSICIANS

The Committee on Arrangements of the Jefferson County Medical Society has appointed the following Committee on Women Physicians. This is the first time in the history of the Association that the women physicians of the State have had a committee of their own.

Dr. Margaret J. Hatfield, Chairman
Dr. Frieda Berresheim
Dr. Della Hertzsch
Dr. Mary Hopkins
Dr. Juanita McF. Jennings
Dr. Margaret Limper
Dr. Alice N. Pickett
Dr. Lillian H. South
Dr. Annie S. Veech

Under the leadership of Dr. Margaret J. Hatfield, Chairman, who is also Vice-President of the Jefferson County Medical Society, a fine attendance of women physicians and a profitable meeting is assured.

LOCAL COMMITTEE ON SCIENTIFIC EXHIBITS

The Committee on Arrangements of the Jefferson County Medical Society have appointed the following local committees on scientific exhibits. More space has been given for this department of the Association than ever before so that each Committee will have ample opportunity to exhibit all their material:

HEART COMMITTEE—Dr. Marion Beard, Chairman

Dr. Woodford B. Troutman, Dr. Emmet F. Horine, Dr. A. I. Haskell, Dr. J. Murray Kinsman, Dr. W. C. Dowden, Dr. Morris Flexner, Dr. A. J. Miller, Dr. John Allen, Dr. Harry Weeter, Dr. Clyde McNeil.

FRACTURE COMMITTEE—Dr. R. A. Griswold, Chairman

Dr. Orville Miller, Dr. W. Barnett Owen, Dr. Harry Goldberg, Dr. R. A. Griswold, Dr. George Leachman, Dr. Richard Hudson, Dr. Robertson Joplin, Dr. George Hendon, Dr. Ira Kerns.

PHYSIO THERAPY COMMITTEE—Dr. David Jones, Chairman

Dr. Carlisle Morse, Dr. A. D. Wilmoth, Dr. Robert Woodard, Dr. Ed. Carleton, Dr. Paul Keith, Dr. I. T. Fugate, Dr. James Stites, Dr. David Hill, Dr. R. R. Elmore, Dr. Franklin Jelsma.

SKIN AND CANCER COMMITTEE—Dr. J. Duffy Hancock, Chairman

Dr. Wallace Frank, Dr. C. D. Enfield, Dr. Lee Kahn, Dr. Hart Hagan, Dr. E. S. Allen, Dr. D. Y. Keith, Dr. D. P. Hall, Dr. Edgar Fallis, Dr. A. J. Miller, Dr. Harry Weeter, Dr. John Allen, Dr. Jesshill Love, Dr. Winston Rutledge, Dr. Robert Kelly, Dr. W. J. Young, Dr. Frank Strickler.

EYE, EAR, NOSE AND THROAT COMMITTEE—Dr. Dwight Townes, Chairman

Dr. A. E. Leggett, Dr. Sam Bumgardner, Dr. Jesse Simpson, Dr. F. W. Urton, Dr. Shelton Watkins, Dr. Walter Dean, Dr. A. E. Bell, Dr. Gaylord Hall, Dr. Claude Wolfe, Dr. J. W. Craddock.

OBSTETRICS AND GYN COMMITTEE—Dr. Speidel, Chairman

Dr. Charles Gaupin, Dr. C. W. Karraker, Dr. Gavin Fulton, Dr. W. T. McConnell, Dr. Silas Starr, Dr. Alice Pickett, Dr. Henry M. Rubel, Dr. Esther Wallner, Dr. Nora Dean, Dr. Robert Monroe, Dr. Harry Davidson, Dr. Freida Berresheim, Dr. Carroll English, Dr. Charles Hibbitt, Dr. R. M. Goldsborough.

U. S. PHARMACOPEIA COMMITTEE—Dr. Virgil Simpson, Chairman

Dr. Winston Rutledge, Dr. Virgil Simpson, Dr. Ben Hollis, Dr. George Wakerlin, Dr. Fred Speidel, Dr. J. R. Buskirk.

Druggists

ARTHRITIS COMMITTEE—Clayton McCarty, Chairman

Dr. Clayton McCarty, Dr. Glen Spurling, Dr. Charles Gaupin, Dr. Sam Overstreet, Dr. Arthur Hurst, Dr. Will Allen, Dr. W. Barnett Owen, Dr Jesshill Love, Dr. Joseph Bell, Dr. Henry Herrmann, Dr. W. W. Nicholson, Dr. Orville Miller, Dr. David Jones.

ANESTHESIA COMMITTEE—Hays Gailbreath, Chairman

Dr. W. H. Long, Dr. Harry Venable, Dr. W. A. Onderdonk, Dr Joseph Parker, Dr. J. W. Heim, Dr. John Neblett, Dr. R. Douglas Sanders, Dr. Harper Richey, Dr. Hays Gailbreath, Dr. Nora Dean, Dr. Hiram Eggers.

PUBLIC HEALTH COMMITTEE—Hugh Leavell, Chairman

Dr. Hugh Leavell, Dr. John Trawick, Dr. E. R. Gernert, Dr. O. O. Miller, Dr. B. W. Smock, Dr. B. L. Brock.

AUDITOR'S REPORT

To the House of Delegates of the Kentucky State Medical Association.

Gentlemen:

Upon request, I have made an examination of the books and records of your Secretary, Dr. A. T. McCormack, and your Treasurer, Dr. M. McDowell, for the period beginning September 1, 1934, and ending September 1, 1935.

The various exhibits and statements submitted herewith set forth in detail the financial transactions for the period, and show the true condition of your affairs, as reflected by your records at this date.

I have also examined the records of Mrs. Edna R. Kreiger, Treasurer of the Woman's Auxiliary, and those of Mrs. William H. Emrick, Business Manager, and Mrs. Peter Gunterman, former Business Manager, of "The Quarterly." Exhibits and statements disclosing the transactions reflected by their records are included in this report.

I wish to express appreciation of the courtesies and helpful assistance rendered by those in charge during the course of the examination.

Respectfully submitted,

(Signed) P. WILLETT HAGAN, C. P. A.

Reconciliation of Treasurer's Accounts for the period from September 1, 1934 to September 1, 1935.

Checking account, National Bank of Cynthiana, Cynthiana, Kentucky.

Balance agreeing with Secretary's last report (Septemper 1, 1934)		$ 3,542.40
Amount received from Secretary for period		15,201.33
Total to be accounted for		$18,743.73
Disbursements for expenses of the period		15,473.01
Balance in Treasurer's Checking Account (September 1, 1935)		$ 3,270.72

Reconciliation of the above balance with statement received from the National Bank of Cynthiana:

Balance in the National Bank of Cynthiana, Cynthiana, Kentucky, Treasurer's Account		$ 5,763.91
Vouchers Outstanding, viz.		
No. 130, July 31, 1930—		
Louis Vissman	$ 20.10	
No. 124 June 29, 1935—		
L. H. South	90.00	
No. 129 June 29, 1935—		
Southern Bell Telephone & Telegraph Company	16.00	
No. 130 July 31, 1935—		
A. T. McCormack, M. D.	182.50	
No. 131 July 31, 1935—		
L. H. South, M. D.	90.00	
No. 132 July 31, 1935—		
J. F. Blackerby	90.00	
No. 133 July 31, 1935—		
Elva Grant	75.00	
No. 134 July 31, 1935—		
Elizabeth Conkling	50.00	
No. 135 July 31, 1935—		
Philip F. Barbour, M. D.	27.60	
No. 136 July 31, 1935—		
L. R. Curtis, Attorney	150.00	
No. 137 July 31, 1935—		
Eldred E. Adams, Attorney	25.00	
No. 138 July 31, 1935—		
Clarence Neighbors, P. M.	50.00	
No. 139 July 31, 1935—		
Louisville Postmaster	60.04	
No. 140 July 31, 1935—		
Louisville Express Agency	5.06	
No. 141 July 31, 1935—		
Peter & Burghard Stone Co.	221.93	
No. 142 July 31, 1935—		
Premier Paper Company	7.45	
No. 143 July 31, 1935—		
Bush-Krebs Company	24.26	
No. 144 July 31, 1935—		
Woman's Auxiliary, Kentucky State Medical Association	14.34	
No. 145 July 31, 1935—		
Mayme Sullivan	2.91	
No. 146 July 31, 1935—		
David Neel Studio	1.00	
No. 147 July 31, 1935—		
Times Journal Publishing Co.	400.00	
No. 148 Aug. 31, 1935—		
A. T. McCormack, M. D.	135.00	
No. 149 Aug. 31, 1935—		
L H. South, M. D.	90.00	
No. 150 Aug. 31, 1935—		
J. F. Blackerby	90.00	
No. 151 Aug. 31, 1935—		
Elva Grant	75.00	
No. 152 Aug. 31, 1935—		
Elizabeth Conkling	50.00	
No. 153 Aug. 31, 1935—		
Times-Journal Publishing Co.	450.00	
		2,498.19
Balance agreeing with Secretary		$ 3,270.72

Vouchers Nos. 129 through 158 are in the hands of the Secretary to be delivered.

Savings Account, National Bank of Cynthiana, Cynthiana, Ky.

Balance agreeing with Secretary's last report (September 1, 1934)		$ 7,699.10
Plus Receipts:		
Interest—		
On Louisville Title Mortgage Co. (Edgewood) Participation Cert. No. L-7591	$ 46.66	
On Louisville Title Mortgage Co. (Rudy) Participation Cert. No. L-7590	23.32	
On Louisville Title Mortgage Co. (Early) Participation Cert. No. L-7594	46.68	
On H. O. L. Corp. Bonds	10.29	
On balance in Savings Account	194.23	
Total Interest	$ 321.18	
Principal—		
On Louisville Title Mortgage Co. Part. Cert. No. L-7592 (Willis)	6.39	
Total Receipts		327.57
Balance in Treasurer's Saving Account (September 1, 1935) agreeing with statement received from the National Bank of Cynthiana		$ 8,026.67

Student Loan Fund Saving Account at National Bank of Cynthiana, Cynthiana, Kentucky.

Balance agreeing with Secretary's last report (September 1, 1934)		$ 22.49
Plus: Interest received on balance in account		.33
Balance in Student Loan Fund Savings Account (September 1, 1935) agreeing with statement received from The National Bank of Cynthiana		$ 22.82

STATEMENT OF ASSETS

September 1, 1935

Cash—		
Treasurer's Checking Account at National Bank of Cynthiana, Cynthiana, Kentucky		$ 3,270.72
Treasnrer's Savings Account at National Bank of Cynthiana, Cynthiana, Kentucky		8,026.67
Total Cash in Bank		$11,320.21
Bonds and Stocks, in hands of Treasurer and held for safe keeping at National Bank of Cynthiana, Cynthiana, Kentucky (Exhibit "B")		$ 4,900.00
Office Furniture, etc. (Exhibit "D")		883.44
Loan from Student Loan Fund		250.00
Total Assets		$17,803.65

EXHIBIT "A"

RECEIPTS

Dues from County Societies		$ 8,700.42
Income of Journal (Exclusive of Investments, etc.)		6,500.91
Student Loan Fund		.33
Interest on Savings Account	$194.23	
Interest on Louisville Title Bonds Nos. 3, 5, 8, and 40	133.34	327.57
Total Receipts		$15,529.23
Balance on hand September 1, 1934 Checking Account		3,542.40
Balance on hand September 1, 1934, Savings Account		7,699.10
Balance on hand September 1, 1934, Student Loan Fund Account		22.49
Total		$26,793.22

DISBURSEMENTS

STATE MEDICAL ASSOCIATION:		
President's Sundries		$ 6.00
Secretary's Salary		1,620.00
Secretary's Stenographer's Salary		900.00
Secretary's Sundries		424.18
Treasurer's Bond and Expense		12.50
Officers, Councilors' and Committee Expenses		269.17
Committee on Public Policy Expenses		1,150.00
Attorneys' Fees Medico-Legal Committee		880.10
Costs and Expenses, Medico-Legal Committee		26.68
Stenographer, Medico-Legal Committee		300.00
Postage and Stamped Envelopes		571.75
Association Sundries		189.98
Post-Graduate Course Expense		27.60
Harlan Meeting Expenses		913.00
Louisville Meeting Expense		23.50
Jane Todd Crawford Monument Expense		221.93
Telephone and Telegrams		29.19
Miscellaneous Expense		7.21
Tax		1.55
Total State Medical Association		$ 7,573.64
KENTUCKY MEDICAL JOURNAL:		
Business Manager's Salary	$ 1,080.00	
Business Manager's Sundries	37.19	
Journal Advertisement Collections Paid Woman's Auxiliary, Kentucky State Medical Association	14.34	
Journal Printing	6,110.17	
Journal Postage	150.00	
Journal Express and Freight	25.40	
Journal Sundries	375.40	
Annual Number, Supplement to Journal	21.44	
Sales Tax	85.43	
Total Journal		$ 7,899.37
Grand Total		$15,473.01
Balance on hand this date, Checking Account	$3,270.72	
Balance on hand this date, Savings Account	8,026.67	
Balance on hand Student Loan Fund	22.82	11,320.21
Total		$26,793.22

EXHIBIT "B"

BONDS AND STOCKS
September 1, 1935

	Par Value
Bonds:	
Louisville Title Mortgage Co.—Participation Certificates.	
No. L-7590 Bond No. 40 Rudy 37330 S F	$ 850.00
No. L-7591 Bond No. 8 Edgewood 36769 S F	850.00
No. L-7593 Bond No. 13 Taylor 37212 S F	850.00
No. L-7594 Bond No. 3 Early 36768 S F	850.00
Home Owners Loan Corporation Bonds received in exchange for Louisville Title Mortgage Co. Participation Certificate No. L-7692 Bond No. 5 Willis 36556 S F	750.00
Total Bonds	$4,150.00
Stocks:	
Louisville Title Mortgage Co. First Preferred Certificate No. 1876—75 shares	$ 750.00
Louisville Title Mortgage Co. Class A, Second Preferred Certificate No. 1516—63 shares and Certificate No. 1498—1-10 share	
Total Stocks	$ 750.00
Total Bonds and Stocks	$4,900.00

The above bonds and stocks are held by the Treasurer of the Association and were verefied by correspondence.

Bonds and Stocks as per last report		$ 5,000.00
Less:		
Lou. Title Mtge. Co. Part. Cert. No. L-7692 (Willis)	$ 850.00	
Exchanged for H. O. L. Bonds	750.00	100.00 (a)
Bonds and Stocks September 1, 1935		$ 4,900.00

(a) The Association received $6.39 in cash, and sustained a loss of $93.61 on this exchange. A portion of whatever value the Lou. Title Mtge. Co. Class A, No Par, Second Preferred Stock later has will offset a part of this loss.

EXHIBIT "C"

Detailed list of receipts from County Societies from September 1934 to September 1935, compared with incomes of same period last year:

	1934	1935
Adair	$ 50.00	$ 25.00
Allen	35.00	35.00
Anderson	40.00	40.00
Ballard	35.00	30.00
Barren	80.00	80.00
Bath	55.00	30.00
Bell	100.00	126.67
Boone	15.00	25.00
Bourbon	75.00	85.00
Boyd	180.00	190.00
Boyle	60.00	75.00
Bracken	50.00	45.00
Breathitt	40.00	35.00
Breckinridge	40.00	40.00
Bullitt	20.00	20.00
Butler	10.00	15.00
Caldwell	50.00	55.00
Calloway	75.00	80.00
Campbell-Kenton	495.00	435.00
Carlisle	25.00	30.00
Carroll	30.00	25.00
Carter	45.00	45.00
Casey	30.00	20.00
Christian	155.00	145.00
Clark	65.00	90.00
Clay	25.00	25.00
Clinton	15.00	25.00
Crittenden	25.00	25.00
Cumberland	30.00	30.00
Daviess	165.00	165.00
Elliott		5.00
Estill	25.00	30.00
Fayette	560.00	505.00
Fleming	55.00	40.00
Floyd	20.00	85.00
Franklin	90.00	95.00
Fulton	10.00	80.00
Gallatin	10.00	10.00
Garrard	35.00	25.00
Grant	55.00	65.00
Graves	85.00	100.00
Grayson	30.00	35.00
Green	30.00	30.00
Greenup	45.00	45.00
Hancock	20.00	15.00
Hardin	90.00	90.00
Harlan	175.00	220.00
Harrison	85.00	85.00
Hart	10.00	20.00
Henderson	75.00	90.00
Henry	35.00	25.00
Hickman	30.00	30.00
Hopkins	120.00	110.00
Jackson	10.00	10.00
Jefferson	1,972.50	2,065.00
Jessamine	50.00	50.00
Johnson	40.00	60.00
Knott	5.00	
Knox	65.00	65.00
Larue	35.00	35.00
Laurel	45.00	25.00
Lawrence	52.50	50.00
Lee	5.00	35.00
Leslie		
Letcher	140.00	125.00

Lewis	15.00	20.00
Lincoln	55.00	65.00
Livingston	15.00	10.00
Logan	80.00	75.00
Lyon	20.00	20.00
McCracken	195.00	200.00
McCreary	40.00	40.00
McLean	30.00	35.00
Madison	120.00	175.00
Magoffin	5.00	5.00
Marion	45.00	55.00
Marshall	70.00	45.00
Martin	5.00	5.00
Mason	80.00	75.00
Meade	20.00	5.00
Menifee	15.00	
Mercer	60.00	45.00
Metcalfe	15.00	30.00
Monroe	5.00	15.00
Montgomery	35.00	45.00
Morgan	10.00	10.00
Muhlenberg	75.00	50.00
Nelson	50.00	45.00
Nicholas	40.00	35.00
Ohio	35.00	30.00
Oldham	20.00	15.00
Owen	15.00	20.00
Owsley	15.00	5.00
Pendleton	25.00	30.00
Perry	145.00	165.00
Pike	140.00	85.00
Powell	15.00	15.00
Pulaski	75.00	78.75
Robertson	10.00	10.00
Rockcastle	35.00	25.00
Rowan	20.00	30.00
Russell	20.00	30.00
Scott	55.00	45.00
Shelby	75.00	80.00
Simpson	45.00	40.00
Spencer		
Taylor	35.00	35.00
Todd	35.00	40.00
Trigg	10.00	5.00
Trimble	5.00	15.00
Union	10.00	10.00
Warren-Edmonson	80.00	140.00
Washington	35.00	35.00
Wayne		
Webster	30.00	55.00
Whitley	60.00	75.00
Wolfe	25.00	10.00
Woodford	30.00	25.00
	$8,425.00	$8,700.42

EXHIBIT "D"

INVOICE OF THE PROPERTY OF THE ASSOCIATION
September 1, 1935

32 Bound Volumes Kentucky Medical Journals 1903-34		$ 320.00
1 Underwood Typewriter	83.03	
Less 50% Depreciation	41.51	41.52
1 Cabinet for Medical Journals	63.20	
1 Allen Wales Adding Machine, No. 10350	175.00	
	238.20	
Less 10% Depreciation	23.82	214.38
3,500 No. 5 2-cent envelopes, Kentucky State Medical Association @ 21.96 per M		76.86
500 No. 5 3-cent envelopes, Kentucky State Medical Association, @ 31.96 per M		15.98
3,000 No. 8 2-cent envelopes, Kentucky State Medical Association, @ 26.88 per M		80.64
1,500 No. 8 3-cent envelopes, Kentucky State Medical Association, @ 32.88 per M		49.32
1,500 No. 9 2-cent envelopes, Kentucky State Medical Association, @ 23.16 per M		34.74
Total		$ 833.44

OLD PROPERTY

1 Filing Cabinet
Rubber Stamps
Guide Cards
1 Globe Safe with Fixtures
2 Cabinets for Addressograph, 36 drawers each
2 Cabinets for Addressograph, 18 drawers each
1 Cabinet for Addressograph, 9 drawers
64 Drawers
2 Bookcases

(All of the property listed under "Old Property" has been fully depreciated, and very little, if anything, could be realized from the sale of same, should a disposition be made of this property.)

EXHIBIT "E"

SECRETARY'S MONTHLY BALANCE SHEET, AGREEING WITH BOOKS

	Expenses	Collections	Balance
1934			
Sept. 1 Balance on hand			$ 3,542.40
Oct. 1	$ 2,029.73	$ 1,349.19	$ 2,861.86
Nov. 1	1,538.93	600.76	1,923.69
Dec. 1	1,453.34	767.32	1,237.67
1935			
Jan. 1	1,342.31	639.50	534.86
Feb. 1	1,117.79	1,927.23	1,344.30
March 1	1,155.01	2,384.51	2,573.80
April 1	1,148.12	1,722.58	3,148.26
May 1	1,149.14	2,799.89	4,799.01
June 1	1,212.20	1,532.09	5,118.90
July 1	957.80	844.78	5,005.88
Aug. 1	1,477.09	633.48	4,162.27
Sept. 1	890.00		3,272.27
Tax on Checks	1.55		3,270.72
	$15,473.01	$15,201.33	
Balance on hand September 1, 1934	3,542.40		$18,743.73
Balance on hand September 1, 1935	$ 3,270.72		
Total Expenses	15,473.01		$18,743.73

EXHIBIT "F"

Collections by Secretary on account of Kentucky State Medical Association, corresponding with checks, deposit slips and receipts filed.

1934	
Oct. 1—To Collections to date	$ 231.67
Nov. 1—To collections to date	75.00
Dec. 1—To collections to date	60.00
1935	
Jan. 1—To collections to date	55.00
Feb. 1—To collections to date	1,470.00
March 1—To collections to date	1,910.00
April 1—To collections to date	1,285.00
May 1—To collections to date	2,180.00
June 1—To collections to date	1,078.75
July 1—To collections to date	207.50
Aug. 1—To collections to date	147.50
Total for Year	$8,700.42

EXHIBIT "G"

Collections by Editor on account of the Journal, corresponding with checks, deposit slips and receipts filed.

1934	
Oct. 1—To collections to date	$1,117.52
No. 1—To collections to date	525.76
Dec. 1—To collections to date	707.32
1935	
Jan. 1—To colelctions to date	584.50
Feb. 1—To collections to date	457.23
March 1—To collections to date	474.51
April 1—To collections to date	437.58
May 1—To colelctions to date	619.89
June 1—To collections to date	453.34
July 1—To collections to date	637.28
Aug. 1—To collections to date	485.98
Total for Year	$6,500.91

EXHIBIT "H"

Total membership by Councilor Districts and by Counties as compared to that of 1934.

First District—V. A. Stilley, Benton, Councilor.

	1934	1935
Ballard	7	6
Caldwell	10	10
Calloway	15	16
Carlisle	5	6
Crittenden	5	5
Fulton	...	11
Graves	16	20
Hickman	6	6
Livingston	3	2
Lyon	4	4

Marshall	10	9
McCracken	39	40
Trigg	1	1
	122	136

Second District—D. M. Griffith, Owensboro, Councilor

Daviess	30	32
Hancock	4	3
Henderson	14	17
Hopkins	21	22
McLean	6	7
Muhlenberg	15	10
Ohio	4	6
Union	1	2
Webster	5	11
	100	110

Third District—C. C. Turner, Glasgow, Councilor

Allen	7	7
Barren	16	16
Butler	1	1
Christian	29	29
Cumberland	6	6
Logan	16	15
Metcalfe	3	5
Monroe	1	2
Simpson	9	8
Todd	7	8
Warren-Edmonson	13	24
	109	121

Fourth District—J. I. Greenwell, New Haven, Councilor

Breckinridge	7	7
Bullitt	4	4
Grayson	6	7
Hardin	18	18
Hart	2	2
Larue	6	6
Meade	4	1
Nelson	10	9
Spencer		
	57	54

Fifth District—C. W. Dowden, Louisville, Councilor

Carroll	6	5
Franklin	18	19
Gallatin	2	2
Henry	6	5
Jefferson	346	374
Oldham	3	3
Owen	3	4
Shelby	15	16
Trimble	1	3
	400	431

Sixth District—W. B. Atkinson, Campbellsville, Councilor

Adair	8	5
Anderson	8	8
Boyle	12	13
Green	6	6
Marion	9	11
Mercer	12	9
Taylor	7	7
Washington	7	7
	69	66

Seventh District—V. G. Kinnaird, Lancaster, Councilor

Casey	5	4
Clinton	3	5
Garrard	7	5
Lincoln	11	13
McCreary	7	8
Pulaski	15	15
Rockcastle	6	5
Russell	4	5
Wayne		
	58	60

Eighth District—C. W. Shaw, Alexandria, Councilor

Boone	3	5
Bracken	9	9
Campbell-Kenton	95	85
Fleming	10	8
Grant	11	13
Harrison	16	17
Mason	16	15
Nicholas	8	7
Pendleton	5	7
Robertson	2	2
	175	167

Ninth District—S. C. Smith, Ashland, Councilor

Boyd	33	37
Carter	9	8
Elliott		1
Floyd	4	17
Greenup	8	9
Johnson	8	12
Lawrence	9	9
Lewis	3	4
Magoffin	1	1
Martin	1	1
Pike	25	17
	101	116

Tenth District—C. A. Vance, Lexington, Councilor

Bath	9	6
Bourbon	15	16
Breathitt	8	7
Clark	12	17
Estill	5	6
Fayette	102	101
Jessamine	5	8
Lee	1	3
Madison	24	34
Menifee	1	
Montgomery	7	9
Morgan	2	2
Owsley	3	1
Powell	3	3
Rowan	4	6
Scott	9	9
Wolfe	5	2
Woodford	6	5
	221	235

Eleventh District—H. K. Buttermore, Liggett, Councilor

Bell	21	24
Clay	5	5
Harlan	30	38
Jackson	1	2
Knott		
Knox	13	13
Laurel	9	5
Leslie		
Letcher	20	25
Perry	28	32
Whitley	12	15
	139	159

EXHIBIT "I"

Detailed Statement of Disbursements of Marshall McDowell, M. D., Treasurer, Kentucky State Medical Association, each made on a Voucher Check signed by C. C. Howard, M. D., President, A. T. McCormack, M. D., Secretary, and himself, from September 1, 1934 to September 1, 1935.

1934

Sept. 29—Voucher Check No. 1 $171.70

A. T. McCORMACK, M. D., Louisville

To September salary, Secretary	135.00
To expense to Chicago	36.70
	171.70

Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 2 $107.89

L. H. SOUTH, M. D., Louisville

To September salary, Business Manager	90.00
To expenses to Crab Orchard, July 31st and August 7th, and to Bowling Green, August 10th and 11th	17.89
	107.89

Approved by Council and Ordered Paid by House of Delegates.

Sept.29—Voucher Check No. 3 $90.00
J. E. BLACKERBY, Louisville
To September services rendered Committee on Public Policy 90.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 4 $75.00
ELVA GRANT, Louisville
To September salary, Bookkeeper 75.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 5 $59.50
B. P. EuBANK, Bowling Green
To auditing accounts of Marshall McDowell, M. D., Treasurer, and A. T. McCormack, M. D., Secretary, Kentucky State Medical Association, and Mrs. C. H. Krieger, Treasurer, and Mrs. Peter Guntermann, Business Manager, Woman's Auxiliary, for the period September 1, 1933 through August 31, 1934 50.00
To traveling expenses 9.50
59.50
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 6 $1.08
J. B. LUKINS, M. D., Louisville
To long distance call to Lexington to Dr. P. L. McClure 1.08
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 7 $19.97
BUSH-KREBS CO., Louisville
To 4 cuts 19.97
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 8 $40.01
F. & V. MANUFACTURING CO., East Providence, R. I.
To 300 Bangles lettering Harlan 1934 @ 13 1-4c 39.75
Insured mail 26
40.01
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 9 $33 16
COURIER-JOURNAL JOB PRINTING CO., Louisville
To 2500 inserts of Dr. C.C. Howard's picture for annual number 31.60
Sales Tax 95
Postage and insurance 61
33.16
Approved by Council and Ordered Paid by House of Delegates

Sept. 29—Voucher Check No. 10 $6.44
MEFFERT EQUIPMENT CO., Louisville
To 1 box White Envelopes 1.25
To 2500 4x6 Plain Cards @ 2.00 per M. 5.00
6.25
Sales Tax 19
6.44
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 11 $4.12
RAILWAY EXPRESS AGENCY, Louisville
To express to Bowling Green, 7-14 and 8-16 34 1.10
To express from Cynthiana, 8-5-34 40
To express from Bowling Green 7-6, 7, 9, 10, and 31-34 2.62
4.12
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 12 $23.18
LOUISVILLE POSTMASTER, Louisville
To Postage for July and August 23.18
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 13 $6.00
KLEIN BROTHERS, Louisville.
To repairing 1 fan 6.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 14 $2.94
THE STEWART DRY GOODS, CO., Louisville
To 1 Mat 25
To 2 frames 2.60
2.85
Sales Tax 09
2.94
Approved by Council and Ordered Paid by House of Delegates.

SSept. 29—Voucher Check No. 15 $4.40
SOUTHERN BELL TELEPHONE & TELEGRAPH CO., Louisville
To long distance calls, 8-11, 13, 20 and 23-34 4.40
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 16 $409.00
LOUISVILLE POSTMASTER, Louisville
To 5 M No. 5 2c Envelopes 109.80
To 5 M No. 5 3c Envelopes 159.80
To 2½ No. 8 2c Envelopes 57.20
To 2½ M No. 8 3c Envelopes 82.20
409.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 17 $15.72
E. H. ROEDERER, Louisville
To 20 Badges, White, Past President @ 6c 1.20
To 200 Badges, Blue, Delegates @ 6c 12.00
To 63 Badges, Purple (Ribbon furnished), Councilor @ 4c 2.52
15.72
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 18 $89.15
CHARLES A. VANCE, M. D., Lexington
To expenses as Chairman of Council for year, as follows:
Stamps and telephone calls 13.95
Councilor trips and meetings 75.20
89.15
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 19 $829.57
TIMES-JOURNAL PUBLISHING CO., Bowling Green
To 2500 September Issue—84 Pages 575.00
To 74,592 Ems in 6 pt 74.50
To Inserts 5.00
To Inserts Scored 8.50
To Envelopes 15.00
To Printing Envelopes 2.30
680.30
Sales Tax 20.41
700.71
Less credit by Check No. 143 dated 8-31-34 450.00
250.71
To 2100 October Issue—80 Pages 525.00
To Envelopes 15.00
To Printing Envelopes 2.50
552.50
To 1500 Letterheads-Secretary 5.50
To 1000 Address Cards 4.00 9.50
562.00
Sales Tax 16.86
578.86
829.57
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 20 $30.90
TIMES-JOURNAL PUBLISHING CO., Bowling Green
To 500—12 Page Programs 30.00
Sales Tax 90
30.90
Approved by Council and Ordered Paid by House of Delegates.

Sept. 29—Voucher Check No. 21 $10.00
THE CODE AUTHORITY FOR PERIODICAL PUBLISHING AND PRINTING INDUSTRY, New York City
To assessment for period, February 26, 1934 to February 25, 1935 inclusive 10.00
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 22 $182.46
A. T. McCORMACK, M. D., Louisville
To October salary, Sesretary 135.00
To expense to State meeting 47.46
182.46
Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 23 $109.30
L. H. SOUTH, M. D., Louisville
To October salary, Business Manager 90.00
To expense to State Meeting 19.30
109.30
Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 24 $90.00
J. F. BLACKERBY, Louisville
To October services rendered Committee on Public Policy 90.00
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 25 $75.00
ELVA GRANT, Louisville
To October salary, Bookkeeper 75.00
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 26 $62.20
MAYME SULLIVAN, Louisville
To expense to State Meeting 37.20
To services rendered at State Meeting 25.00
62.20
Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 27 $29.94
RUTH FLAGG, Louisville
To expense to State Meeting 4.94
To services rendered at State Meeting 25.00
29.94
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 28 $28.60
MABELLE YOUNG, Louisville
To expense to State Meeting 3.60
To services rendered at State Meeting 25.00
28.60
Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 29 $ 3.42
JOHN W. KELLY, Louisville

To expenses to Bowling Green and retnrn, September 24th, in connection with State Meeting Program 3.42

Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 30 $15.00

J. B. LUKINS, M. D., Louisville

To stamps, stationery, carbon paper and folders used as Chairman of Medico-Legal Committee 15.00

Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. No. 31 $25.00

W. D. HAGGARD, M. D., Nashville, Tennessee

To expenses as guest speaker at State Meeting 25.00

Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 32 $16.60

D. M. GRIFFITH, M. D., Owensboro

To expenses as Councilor, Second District 16.60

Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 33 $100.00

LAWRENCE YEARY, Financial Secretary, Harlan

To use of Methodist Episcopal Church, Harlan, for State Meeting..... 100 00

Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 34 $60.00

MRS. J. M. ALVERSON, Harlan

To luncheon at State Meeting, 80 plates @ 75c $60.00

Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 35 $53.56

THE LEWALLEN HOTEL CO., Harlan

To room and meals for A. T. McCormack, M. D., Mayme Sullivan, Ruth Flagg and Mabelle Young, 9-30 — 10-4-34 $53.56

Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 36 $4.58

RAILWAY EXPRESS AGENCY, Louisville

To Express from Bowling Green, 9-4, 7, 15, 21 and 29- $3.62

To Express from Bowling Green, 9-18-34..... .96

4.58

Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 37 1.90

MEFFERT EQUIPMENT CO Louisville

To 2 No. 548 Index Books 40

To 1 gross Cedar Pencils 1.50

1.90

Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 38 15.56

LOUISVILLE POSTMASTER, Louisville

To stamps for September 15.56

Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 39 $39.27

V. A. STILLEY, M. D., Benton

To expense as Councilor, First District $39.27

Approved by Council and ordered paid by House of Delegates.

Oct. 31—Voucher Check No. 30 $626.54

TIMES-JOURNAL PUBLISHING CO., Bowling Green.

To 2150 November Issue—72 pages	$486.00	
To Inserts Scored	8.50	
To Printing Envelopes	2.30	
	$496.80	
Sales Tax	14.90	511.70
To 500 Letterheads and 500 Envelopes, President	6.00	
To 300 Letterheads and 300 Envelopes, President-Elect	4.50	
To 15,000 Letterheads, Secretary	60.00	
To 15,000 Second Sheets, Secretary	26.00	
To 500 Letterheads and 500 Envelopes, Chairman of Council ..	6.00	
To 300 Letterheads and 300 Envelopes, Councilor, Fifth District	4.50	
To 300 Letterheads and 300 Envelopes, Councilor, Sixth District	4.50	
	111.50	
Sales Tax	3.34	114.84
		626.54

Approved by Council and ordered paid by House of Delegates.

No. 30—Voucher Check No. 41 $135.00

A. T. McCORMACK, M. D., Louisville

To November Salary, Secretary $135.00

Nov. 30—Voucher Check No. 42 $90.00

L. H. SOUTH, M. D. Louisville

To November salary, Busniess Manager $90.00

Nov. 30—Voucher Check No. 43 $90.00

J. F BLACKERBY, Louisville

To November services rendered Committee on Public Policy $90.00

Nov. 30—Voucher Check No. 44 $75.00

ELVA GRANT, Louisville

To November salary, Bookkeeper $75.00

Nov. 30—Voucher Check No. 45 $25.00

H. K. BUTTERMORE, M. D., Liggett

To Expense as Councilor, 11th District $25.00

Nov. 30—Voucher Check No. 46 $ 7.64

MAYME SULLIVAN, Louisville

To reimbursement for the following:
Long distance telephone calls:

C. C. Howard, Glasgow, 8-7-34	1.35	
J. I. Greenwell, New Haven, 9-7-34	.50	
J. I. Greenwell, New Haven, 9-13-34	.50	
Times Journal Publishing Co., Bowling Green, (Mr. Kelly) 9-15-34	.90	
Times Journal Publishing Co., Bowling Green, (Mr. Kelly) 9-22-34	.90	
Times Journal Publishing Co., Bowling Green, (Dr. South) 9-24-34	.90	
Times Journal Publishing Co., Bowling Green, (Dr. South) 9-24-34	.90	5.95
Telegrams:		
Olin West, Chicago, 9-20-34	.50	
W. M. Martin, Harlan, 9-26-34	.39	
Clark Bailey, Harlan, 8-22-34	.41	
Clark Bailey, Harlan, 8-22-34	.39	1.69
		7.64

Nov. 30—Voucher Check No. 47 $75.00
L. R. CURTIS, Attorney, Louisville
To services rendered in case Drs. Jos. & G. H. Ray vs John Walter $75.00

Nov. 30—Voucher Check No. 48 $55.62
COURIER-JOURNAL JOB PRINTING CO., Louisville

To 4 M Membership Cards, 2 M for 1935 and 2 M for 1936	$54.00
Sales Tax	1.62
	55.62

Nov. 30—Voucher Check No. 49 $2.91
RAILWAY EXPRESS AGENCY, Louisville

To Express to Times Journal, Bowling Green, 10-17-34	.50
To Express to Dr. McDowell, Cynthiana, 10-11-34	.40
To Express from Times Journal, Bowling Green, 10-18 & 20-34	2.01
	2.91

Nov. 30—Voucher Check No. 50 $11.65
JOHN S. BAUGHMAN, Clerk Boyle Circuit Court, Danville
To court costs in case Alex DeWald vs. O. L. May, M. D. 11.65

Nov. 30—Voucher Check No. 51 $100.00
HENRY JACKSON, Attorney, Danville
To services rendered in case DeWald vs. O. L. May, M. D. 100.00

Nov. 30—Voucher Check No. 52 $50.00
CLARENCE NEIGHBORS, P. M., Bowling Green
To Postage for Journal 50.00

Nov. 30—Voucher Check No. 53 $18.00
THE BROWN HOTEL, Louisville
To Luncheon for Council Meeting 18.00

Nov. 30—Voucher Check No. 54 $13.72
LOUISVILLE POSTMASTER, Louisville
To Postage for October 13.72

Nov. 30—Voucher Check No. 55 $703.80
TIMES JOURNAL PUBLISHING CO., Bowling Green

To 2,100 December Issue—108 pages	$722.00	
To 6 p. Tabular Work	25.00	
	747.00	
Less rebate on 12 pages overcharged on November Issue	81.00	
	666.00	
To Envelopes	15.00	
To printing Envelopes	2.30	
	683.30	
Sales Tax	20.50	
	703.80	

Dec. 22—Voucher Check No. 56 $135.00
A. T. McCORMACK, M. D., Louisville
To December salary, Secretary 135.00

Dec. 22—Voucher Check No. 57 $90.00
L. H. SOUTH, Louisville
To December salary, Business Manager 90.00

Dec. 22—Voucher Check No. 58 $102.00
J. F. BLACKERBY, Louisville

To December services rendered Committee on Public Policy	90.00
To Expense to State Meeting	12.00
	102.00

Dec. 22—Voucher Check No. 59 $75.00
ELVA GRANT, Louisville
To December salary, Bookkeeper 75.00

Dec. 22—Voucher No. 60 $464.55
THE MASTER REPORTING COMPANY, Inc., Washington, D. C.

To reporting Scientific Sessions of Kentucky State Medical Association, Harlan, 10-2 to 4-34	170.97
To reporting House of Delegates of Kentucky State Medical Association, Harlan, 10-1 to 4-34	203.72
To reporter's traveling expenses	89.86
	464.55

Dec. 22—Voucher Check No. 61 $6.91
LOUISVILLE POSTMASTER, Louisville
To postage for November 6.91

Dec. 22—Voucher Check No. 62 $12.30
WHITLEY CIRCUIT COURT, Williamsburg
To court costs in case R. S. Rose vs Geo. P. Sprague et al 12.30

Dec. 22—Voucher Check No. 63 $12.50
S. C. COOKE & CO., Bowling Green
To Premium on Bond No. 129554-D for Marshall McDowell, M. D., Treasurer .. 12.50

Dec. 22—Voucher Check No. 64 $444.05
TIMES JOURNAL PUBLISHING CO., Bowling Green
To 2,100 January Issue—72 pages 481.00
To Inserts Scored 8.50
To Envelopes 15.00
To Printing Envelopes 2.30

506.80

Sales Tax on January Issue 10.50
Refund on December Issue 5.00 5.50

512.30

Less 5 days delay of December Issue @ 10.00 50.00
Less 73 errors in December Issue @ 25c each 18.25 68.25

444.05

1935

Jan. 31—Voucher Check No. 65 $135.00
A. T. McCORMACK, M. D., Louisville
To January Salary, Secretary 135.00

Jan. 31—Voucher No. 66 $90.00
L. H. SOUTH, M. D., Louisville
To January salary, Business Manager 90.00

Jan. 31—Voucher Check No. 67 $90.00
J. F. BLACKERBY, Louisville
To January services rendered Committee on Public Policy 90.00

Jan. 31—Voucher Check No. 68 $75.00
ELVA GRANT, Louisville
To January salary, Bookkeeper 75.00

Jan. 31—Voucher Check No. 69 $ 1.15
THE STEWART DRY GOODS CO., Louisville
To 1 frame 1.15

Jan. 31—Voucher Check No. 70 $150.98
L. R. CURTIS, Attorney, Louisville
To services rendered to January 1, 1935 150.00
To telephone call to Glasgow in Royce vs. Richards case 98

150.98

Jan. 31—Voucher Check No. 71 $ 6.46
MAYME SULLIVAN, Louisville
To reimbursement for the long distance calls on 9-26, 28; 10-16, 24, 29 and 11-1, 2-34 6.46

Jan. 31—Voucher Check No. 72 $ 4.38
LOUISVILLE POSTMASTER, Louisville
To postage for December 4.38

Jan. 31—Voucher Check No. 73 $ 3.49
RAILWAY EXPRESS AGENCY, Louisville
To Express to Bowling Green, 11-5, 15, 12-17-34 1.47
To Express to Chicago, 11-19-34 38
To Express from Bowling Green, 11-1, 12, 12-8-34 1.64

3.49

Jan. 31—Voucher Check No. 74 $ 3.03
H. HESSE, Louisville
To 1 original 8x10 copy print of Dr. Connolly 3.00
State tax on material 1% 03

3.03

Jan. 31—Voucher Check No. 75 $558.30
THE TIMES JOURNAL PUBLISHING CO., Bowling Green
To 2150 February Issue—76 pages including Tabular Work 515.00
To 4 pages not charged on January Issue (72 pages charged instead of 76) .. 26.00
To Envelopes 15.00
To printing Envelopes 2.30

558.30

Feb. 28—Voucher Check No. 76 $135.00
A. T. McCORMACK, M. D., Louisville
To February salary, Secretary 135.00

Feb. 28—Voucher Check No. 77 $90.00
L. H. SOUTH, M. D., Louisville
To February salary, Business Manager 90.00

Feb. 28—Voucher Check No. 78 $90.00
J. F. BLACKERBY, Louisville
To February Services rendered Committee on Public Policy 90.00

Feb. 28—Voucher Check No. 79 $75.00
ELVA GRANT, Louisville
To February salary, Bookkeeper 75.00

Feb. 28—Voucher Check No. 80 $50.00
CLARENCE NEIGHBORS, P. M., Bowling Green
To postage on Journals 50.00

Feb. 28—Voucher Check No 81 $ 6.71
LOUISVILLE POSTMASTER, Louisville
To postage for January 6.71

Feb. 28—Voucher Check No. 82 $150.00
L. R. CURTIS, Attorney, Louisville
To ½ of fee of $300 in case Douglas Combs vs. Hazard Hospital, et al 150.00

Feb. 28—Voucher Check No. 83 $ 1.50
RAILWAY EXPRESS AGENCY, Louisville
To Express from Bowling Green, 1-7-35 50
To Express to Bowling Green, 1-15-35 1.00
1.50

Feb. 28—Voucher Check No. 84 $556.80
THE TIMES JOURNAL PUBLISHING CO., Bowling Green
To 2150 March Issue—76 pages 520.00
To Inserts Scored 8.50
To Printing Envelopes 2.30
To 4 Pages not charged on February Issue 26.00
556.80

Mar. 30—Voucher Check No. 85 $210.14
A. T. McCORMACK, M. D., Louisville
To March salary, Secretary 135.00
To expense 75.14
210.14

Mar. 30—Voucher Check No. 86 $90.00
L. H. SOUTH, M. D., Louisville
To March salary, Business Manager 90.00

Mar. 30—Voucher Check No. 87 $90.00
J. F. BLACKERBY, Louisville
To March services rendered Committee on Public Policy 90.00

Mar. 30—Voucher Check No. 88 $75.00
ELVA GRANT, Louisville
To March salary, Bookkeeper 75.00

Mar. 30—Voucher Check No. 89 $ 8.87
LOUISVILLE POSTMASTER, Louisville
To postage for February 8.87

Mar. 30—Voucher Check No. 90 $120.10
BEN V. SMITH & SON, Attorneys, Somerset ..
To services rendered in case Sears vs. Dr. R. C. Sievers 120.10

Mar. 30—Voucher Check No. 91 $28.15
S. C. SMITH, M. D., Ashland
To expense of attending 1934 & 1935 Council meetings as Councilor, 9th District 28.15

Mar. 30—Voucher Check No. 92 $ 1.53
KENTUCKY BOOK MANUFACTURING CO., Louisville
To binding 1 year's copies of Kentucky Medical Journal 1.50
Sales Tax 03
1.53

Mar. 30—Voucher Check No. 93 $ 1.71
RAILWAY EXPRESS AGENCY, Inc., Louisville
To Express from Bowling Green, 2-9 & 13-35 75
To Express to Bowling Green, 2-15-35 96
1.71

Mar. 30—Voucher Check No. 94 $ 3.61
BRAMEIER BROS, Louisville
To 1 woodcut of signature and stamp 3.50
Sales Tax 11
3.61

Mar. 30—Voucher Check No. 95 $ 2.50
THE FEDERATION PRESS, Chicago
To 1 bound volume of the Federation Bulletin for 1934 2.50

Mar. 30—Voucher Check No. 96 $516.51
THE TIMES JOURNAL PUBLISHING CO., Bowling Green
To 2200 April Issue—72 pages 492.00
To Envelopes 15.00
To Printing Envelopes 2.30
509.30
Amount paid by Dr. Bate due Times Journal for reprints 7.21
516.51

Apr. 30—Voucher Check No. 97 $135.00
A. T. McCORMACK, M. D., Louisville
To April salary, Secretary 135.00

Apr. 30—Voucher Check No. 98 $90.00
L. H. SOUTH, M. D., Louisville
To April salary, Business Manager 90.00

Apr. 30—Voucher Check No. 99 $90.00
J. F. BLACKERBY, Louisville
To April services rendered Committee on Public Policy 90.00

Apr. 30—Voucher Check No. 100 $75.00
ELVA GRANT, Louisville
To April salary, Bookkeeper 75.00

Apr. 30—Voucher Check No. 101 $100.00
ELIZABETH CONKLING, Louisville
To salary for March and April @ $50.00 per month, Stenographer for Medico-Legal Committee 100.00

Apr. 30—Voucher Check No. 102 $ 10.00
LEEBURN ALLEN, Attorney, Campton
To services rendered in case of Moore vs. H. I. Blood, M. D. 10.00

Apr. 30—Voucher Check No. 103 $100.00
H. A. BIRKHEAD, Attorney, Owensooro
To services rendered in case of Natalie Nesmith vs. J. E. Barnhill, M. D. 100.00

Apr. 30—Voucher Check No. 104 $ 7.60
MAYME SULLIVAN, Louisville
To reimbursement for the following:
Long Distance calls:
Dec. 1—Dr. Greenwell, Bardstown 40
Feb. 1—Dr. Maxwell, Lexington 1.30
Feb. 20—Mr. J. G. Denhardt, Bowling Green 90
2.60
Apr. 1—Services arranging old copies of Journals 5.00
7.60

Apr. 30—Voucher Check No. 105 $ 6.26
LOUISVILLE POSTMASTER, Louisville
To Postage for March 6.26

Apr. 30—Voucher Check No. 106 $ 1.27
RAILWAY EXPRESS AGENCY, Inc., Louisville
To Express from Bowling Green, 3-7 & 18-35 75
To Express to Bowling Green, 3-16-35 52
1.27

Apr. 30—Voucher Check No. 107 $ 4.96
BUSH-KREBS CO., Louisville
To 1 cut 4.96

Apr. 30—Voucher Check No. 108 $ 1.75
WALTER BROWN, Clerk Whitley Circuit Court, Williamsburg
To defendant's costs in case C. S. Browning vs. F. S. Smith, M. D. 1.75

Apr. 30—Voucher Check No. 109 $527.30
THE TIMES JOURNAL PUBLISHING CO., Bowling Green
To 2100 May Issue—76 pages 510.00
To Envelopes 15.00
To Printing Envelopes 2.30
527.30

May 31—Voucher Check No. 110 $286.88
A. T. McCORMACK, M. D., Louisville
To May salary, Secretary 135.00
To reimbursement for 10 M copies of reprint on Medical Legislation 151.88
286.88

May 31—Voucher Check No. 111 $90.00
L. H. SOUTH, M. D., Louisville
To May salary, Business Manager 90.00

May 31—Voucher Check No. 112 $148.00
J. F. BLACKERBY, Louisville
To May services rendered Committee on Public Policy 90.00
To expenses of attending meetings of 7th & 9th Councilor Districts at Somerset & Ashland 58.00
148.00

May 31—Voucher Check No. 113 $75.00
ELVA GRANT, Louisville
To May salary, Bookkeeper 75.00

May 31—Voucher Check No. 114 $50.00
ELIZABETH CONKLING, Louisville
To May salary, Stenographer for Medico-Legal Committee 50.00

May 31—Voucher Check No. 115 $ 17.12
LOUISVILLE POSTMASTER, Louisville
To postage for April 17.12

May 31—Voucher Check No. 116 $ 5.35
SOUTHERN BELL TELEPHONE & TELEGRAPH CO., Louisville
To long distance calls, as follows:
12-25-34 Mr. J. G. Denhardt, Bowling Green 90
12-25-34 Dr. C. C. Howard, Glasgow 85
1-14-35 Dr. C. A. Vance, Lexington 1.05
1-14-35 Dr. C. A. Vance, Lexington 80
2-23-35 Mr. J. G. Denhardt, Bowling Green 90
3-21-35 Dr. C. C. Howard, Glasgow 85
5.35

May 31—Voucher Check No. 117 $ 1.49
RAILWAY EXPRESS AGENCY, Louisville
To Express from Bowling Green, 4-18 & 19-35 98
To Express to Bowling Green, 4-18-35 51
1.49

May 31—Voucher Check No. 118 $ 1.25
PREMIER PAPER COMPANY, Louisville
To paper for invitations to Jane Todd Crawford Memorial Service 1.25

May 31—Voucher Check No. 119 $ 2.25
MEFFERT EQUIPMENT CO., Louisville
To 1 M 6 3-4 White Envelopes 2.25

May 31—Voucher Check No. 120 $10.00
ELECTRIC BLUE PRINT & SUPPLY CO., Louisville
To 250 Blue Prints of Exhibit Space for 1935 Meeting 10.00

May 31—Voucher Check No. 121 $ 3.64
BUSH-KREBS CO., Louisville
To 1 cut 3.64

May 31—Voucher Check No. 122 $521.22
THE TIMES JOURNAL PUBLISHING CO., Bowling Green
To 2150 June Issue—72 pages 491.42
To Printing Envelopes 2.30
493.72
To 1 M Letterheads and 1 M Envelopes for Dr. Thomas 8.50
To 500 Letterheads and 500 Envelopes for Dr. Lukins 5.50 14.00
507.72
To 300 Applications for Exhibit Space at 1935 Meeting 7.50
To 300 Commercial Exhibit Forms for 1935 Meeting 6.00 13.50
521.22

June 29—Voucher Check No. 123 $135.00
A. T. McCORMACK, M. D., Louisville
To June salary ,Secretary 135.00

June 29—Voucher Check No. 124 $90.00
L. H. SOUTH, M. D., Louisville
To June salary, Business Manager 90.00

June 29—Voucher Check No. 125 $90.00
J. F. BLACKERBY, Louisville
To June services rendered Committee on Public Policy 90.00

June 29—Voucher Check No. 126 $75.00
ELVA GRANT, Louisville
To June salary, Bookkeeper 75.00

June 29—Voucher Check No. 127 $50.00
ELIZABETH CONKLING, Louisville
To June salary, Stenographer for Medico-Legal Committee 50.00

June 29—Voucher Check No. 128 $501.80
TIMES JOURNAL PUBLISHING CO., Bowling Green
To July Issue, 2100—72 pages 480.00
To Envelopes 15.00
To Printing Envelopes 2.30
497.30
To 300 Letterheads and 300 Envelopes for Dr. Buttermore 4.50
501.80

June 29—Voucher Check No. 129
SOUTHERN BELL TELEPHONE & TELEGRAPH CO., Louisville
To long distance telephone calls, as follows:
4-5-35, Dr. C. C. Howard, Glasgow 1.35
4-10-35, Mr. Goodman, Washington, D. C. 5.95
4-10-35, Dr. McCormack called from Washington, D. C. 4.25
4-20, 23 & 24-35 Mr. J. G. Denhardt, Bowling Green 3.60
4-22-35, Dr. C C. Howard, Glasgow 85
16.00

July 31—Voucher Check No. 130 $182.50
A. T. McCORMACK, M. D., Louisville
To July salary, Secretary 135.00
To expense to American Medical Association meeting 27.50
To Kentucky State Medical Association expense 20.00
182.50

July 31—Voucher Check No. 131 $90.00
L. H. SOUTH, M. D., Louisville
To July salary, Business Manager 90.00

July 31—Voucher Check No. 132 $90.00
J. F. BLACKERBY, Louisville
To July services rendered Committee on Public Policy 90.00

July 31—Voucher Check No. 133 $75.00
ELVA GRANT, Louisville
To July salary, Bookkeeper 75.00

July 31—Voucher Check No. 134 $50.00
ELIZABETH CONKLING, Louisville
To July salary, Stenographer for Medico Legal Committee 50.00

July 31—Voucher Check No. 135 $27.60
PHILIP F. BARBOUR, M. D., Louisville
To expenses incurred for the post graduate extension courses at Mayfield and Madisonville 27.60

July 31—Voucher Check No. 136 $150.00
L. R. CURTIS, Attorney, Louisville
To services rendered January 1, to July 1, 1935 150.00

July 31—Voucher Check No. 137 $ 25.00
ELDRED E. ADAMS, Attorney, Louisa
To legal services in case Regania Polly vs. Dr. W. W. Wray 25.00

July 31—Voucher Check No. 138 $50.00
CLARENCE NEIGHBORS, P. M., Bowling Green
To postage for Journals 50.00

July 31—Voucher Check No. 139 $60.04
LOUISVILLE POSTMASTER, Louisville
To postage for May 40.51
To postage for June 19.53
60.04

July 31—Voucher Check No. 140 $ 5.06
RAILWAY EXPRESS AGENCY, Louisville
To Express from Bowling Green, 5-3, 4, 11, 15 and 6-1-35 2.83
To Express to Bowling Green, 5-18, 6-12 and 15-35 2.23
5.06

July 31—Voucher Check No. 141 $221.93
PETER & BURGHARD STONE CO., Louisville
To Jane Todd Crawford Monument 385.00
Credited by Dr. C. C. Howard's Check, 6-10-35 163.07

July 31—Voucher Check No. 142 $ 7.45
To 5 M No. 6 3-4 Suh. 24 White Regular Envelopes 7.45

July 31—Voucher Check No. 143 $24.26
BUSH-KREBS CO., Louisville
To 1 Zinc Etching of Hands 3.82
To 5 Sq. Copper Halftones of Portraits for Supplement 20.44
24.26

July 31—Voucher Check No. 144 $14.34
WOMAN'S AUXILIARY, Kentucky State Medical Association, Louisville
To 25% Commission on Advertisement amounting to $67.37 16.84
Less cost of 500 envelopes ordered during year 2.50
14.34

July 31—Voucher Check No. 145 $ 2.91
MAYME SULLIVAN, Louisville
To reimbursement for the following:
Long distance calls to Dr. McCormack, Detroit, 5-2, 10, 14-35 1.56
Long distance call to Mr. Denhardt, Bowling Green, 5-23-35 90
Express to Atlantic City, 6-10-35 45
2.91

July 31—Voucher Check No. 146 $ 1.00
DAVID NEEL STUDIO, Louisville
To 1 glossy print of Mrs. A. T. McCormack for Supplement 1.00

July 31—Voucher Check No. 147 $400.00
THE TIMES JOURNAL PUBLISHING CO., Bowling Green
To account of August Journal 400.00

Aug. 31—Voucher Check No. 148 $135.00
A. T. McCORMACK, M. D., Louisville
To August salary, Secretary 135.00

Aug. 31—Voucher Check No. 149 $90.00
L. H. SOUTH, M. D., Louisville
To August salary, Business Manager 90.00

Aug. 31—Voucher Check No. 150 $90.00
J. F. BLACKERBY, Louisville
To August services rendered Committee on Public Policy 90.00

Aug. 31—Voucher Check No. 151 $75.00
ELVA GRANT, Louisville
To August salary, Bookkeeper 75.00

Aug. 31—Voucher Check No. 152 $50.00
ELIZABETH CONKLING, Louisville
To August salary, Stenographer for Medico-Legal Committee 50.00

Aug. 31—Voucher Check No. 153 $450.00
TIMES JOURNAL PUBLISHING CO., Bowling Green
To account of September Journal 450.00
Federal Tax on Checks 1.55 1.55

TOTAL $15,473.01

ORIGINAL ARTICLES

POTENTIAL AND SKIN CANCER

WILLIAM J. YOUNG, M. D.

Louisville

For the past five years, I seem to have been lulling myself into a false security, and was startled a short time ago, to read on very good authority that three thousand people died each year from skin cancer. A most conservative estimate of the longevity of the average life of a cancer patient is two years. In which case, it is easily seen that there would be six thousand people in the United States, each year, suffering from skin cancer.

About the same time, I was further impressed by a seeming lack of knowledge and possibility of its treatment by a visit from a substantial citizen of a county in the mountain district of Kentucky. On being told that his lesion (skin cancer) was of two years duration, I asked what previous treatment had been instituted. His reply was, "None," as he and his close associates suspected cancer and concluded that nothing could be done.

The lesion was not extensive, of a basal cell type, and on being told it should be cured with one massive dose of radium, he became very much interested. Not that he believed my statement, but it was a pleasant illusion as he had only come to Louisville to satisfy some "Doubting Thomas," who believed something might be done.

The above patient was given a massive dose of radium with a clinical cure, which was a delightful surprise as well as being educational.

My surprise that men of education were ignorant of the fact that skin cancer could be cured, certainly, in its early stages, elicited the following statement: "In his county and surrounding territory, he was sure that there was approximately one hundred per cent of the population who felt as he had, and were resigned to the inevitable on the appearance of cancer."

The above certainly proves the importance of continued publicity and education to all classes of people with skin changes and cancers.

The hardest thing for the laymen to realize is the ease with which we recognize skin cancer and potential possibilities and its worth while investigation. Those educated are very quick to consult their physician about a suspicious lesion to such an extent that fully sixty per cent of my superficial radium treatments are confined to potential lesions. Of course, in this group one gets one hundred per cent cures.

I am not presuming to call your attention to skin conditions, with which you are familiar, with the idea of teaching, but am writing this more as a reminder of the fact that we all are apt to have changes in the skin as we become older, especially upon exposed surfaces. Consideration of these possibilities found present should be given an opportunity to avoid further trouble. So often a casual remark, "We'll watch it," or "Remind me of it in a few months," causes the incident to be dismissed from the mind; whereas, a positive statement will result in an easy correction, showing that the education for skin cancer is still needed, as is demonstrated by the fact of three thousand deaths from skin cancer each year.

I feel sure that a very large percentage of the three thousand deaths a year can be materially eliminated. The fact that the superficiality of curable cancer is also easy for the patient to see, makes it evident that he should consult with his doctor and be advised.

The difference between doctors in their cancer mindedness is astounding, some of them surprise you by their acuteness of observation, while others simply act in a lethargic attitude of indifference. You have all seen those terribly unsightly, extensive necrotic skin cancers, and it is well to reflect all of them started from a minute beginning, easy to recognize and correct.

Today, we are all familiar with the typical cancer with its elevated pearly border, rolling inward, circumscribed, having an ulcerated center of varying degree of necrosis. But, there should be a recognition of changes in the skin before the cancer develops, and then our education is beginning to move in a more beneficial way. The important thing, to my mind, is to diagnose and recognize skin changes before these take on the activity of malignancy.

I have seen several thousand cases with various degrees and types of skin cancer, and a great many are neglected solely because of carelessness on the part of our patients. Where the average doctor is engaged in questions of acute and more momentous problems, it is easy to understand how the concern of a small change in the skin can be so easily disregarded. On the other hand, when you see these small changes later become horrible, inseparable, incurable cancers, how much better it is to recognize them in their incipiency and give the patient the

advice they are entitled to. The patients are only too willing to ignore a seemingly innocent lesion and shift the responsibility which, unfortunately, has not been seriously assumed.

Therefore, I say to the medical profession, they have a duty to perform, not only the necessity of an examination for potential changes, but also the importance of calling the patient's attention to these changes and instructing them when such changes are encountered. In this way, I am sure much can be accomplished through mutual cooperation, by having the medical profession educate and instruct the laity to the possibility of potential skin cancer so that the public is enabled to present themselves for treatment within a curable stage.

Probable Cause of Cancer

If one were asked the direct question as to the cause of cancer, the answer must be, "I do not know." There are, however, certain deductions reached and observed over a long period of time, causing us to arrive at substantial assumptions.

Dr. Maude Slye of Chicago, has already shown experimentally that mice bred from cancer families over many generations have a tendency and disposition toward cancer B. Gruskin, M. D., of Philadelphia., in the past few years, has further made an embryonic extract of animal tissue, carcinoma and sarcoma in which he obtained positive intradermal skin tests in patients having discernable cancer in a large percentage of known cancer lesions; and also in patients having a previous cancer history in former generations. The detail of Dr. Gruskin's tests may be found in the Journal of Laboratory & Clinical Medicine of St. Louis, for September, 1932, and the Philadelphia Medical Journal of May, 1933. So we might say our knowledge of the cause of cancer is, at present, confined to chronic irritation and a predisposition toward cancer in those having a cancer history.

In superficial cancer and its potentialities, we might add causative lesions, which, we know, may, at any time, become active subjects to irritation; such as blondes having thinly pigmented skin and not afforded the protection against sun and wind. The negro is rarely seen with cancer of the skin, but it is found in the mucous membranes of negroes, in the same proportion as the whites.

Skin changes obtained from potential cancer may occur in any epithelial tissue subject to chronic irritation of the skin, and our main object is to avoid subjecting any part of the body to chronic irritation. By this, it is clearly seen, every mole, wart, papilloma or elevation of the skin or mucous membrane is not a subject of excision or destruction, but those subjected to chronic irritation and showing changes should receive immediate investigation and correction, should it be deemed necessary. Patients having a previous history of cancer should have a yearly examination.

Potential Skin Cancers

Potential skin cancer is a term designating skin lesion, situated where it may take on skin changes and, perhaps later, become malignant. The term precancerous is a misnomer as it is obvious one can hardly foretell ultimate outcome of a given lesion and the term is becoming obsolete. Yet here, as in potential cancer, we continue on the same status until the malignancy has taken place and is definitely diagnosed. Practically all benign cancers are potential ones. Chronic inflammation, where it may be subjected by continued solar, thermal, chemical or mechanical irritation, deserves careful and stated observations, correcting any occurrence or presence of present pathology and, thus preventing the possibility of malignancy.

Classification of Skin Cancer

1. Benign
2. Malignant

Benign Lesions:
- Senile Keratosis
- Papilloma
- Warts

In appearance, the incipient senile keratosis begins as a stain on the skin, gradually enlarging at the periphery. Later, it becomes elevated and a scale forms over the site. As the lesion gradually enlarges, the scale increases in thickness, dropping off every three to six weeks to reform again. Ultimately, the lesion may become necrosed in center with an infiltrated border, rolling inward and assume a basal cell epithelioma.

They are found chiefly on the exposed parts of the patient, namely: face, neck, ears and hands.

People subjected to out-door life of sunshine and wind, lacking pigment for their protection, are most often seen with these lesions.

Elevated papillomae on the skin: The white, or simple type, are normally soft and require no consideration, unless subjected to constant irritation. Under these circumstances they become hard, tense and often with small blood vessels running from the central body of the lesion to the periphery. These should be excised or irradiated with X-ray or radium or the other measure, with



PLATE NUMBER ONE

No. 1. Crusting two weeks after application of radium.
No. 2. Final result six weeks later.
No. 3. Epitheloma on ear.
No. 4. Three months later—2 X-ray treatments.
No. 5. Epitheloma inner canthus of eye. Radium treatment.
No. 6. Two months later.
No. 7. Epitheloma, lower lip. Radium treatment.
No. 8. Six weeks later, radium activity still present.
No. 9. Result two and a half months later.
No. 10. Epitheloma of face. Radium used.
No. 11. Six weeks later. X-ray used.
No. 12. 8 weeks after last treatment.
No. 13. Lesion on lower lip. Wasserman 4-plus. No improvement after four neo-salvarsan injections. Biopsy report epitheloma. X-ray.
No. 14. Result six weeks later.
No. 15. Epitheloma on nose. Treated with radium.
No. 16. Result two months later.



PLATE NUMBER TWO
(Miscellaneous)

No. 17. Epitheloma on nose. Treated with X-ray.
No. 18. Result six weeks later.
No. 19. Same patient. Epitheloma on left temple. X-ray and radium.
No. 20. Result four months later.
No. 21. Epitheloma under eye. Radium.
No. 22. Two months later.
No. 23. Keratosis on cheek. Radium.
No. 24. Two months later.
No. 25. Degenerating pigmented mole. Referred to surgeon.
No. 26. Epitheloma on cheek. Keratosis on temple. Radium with good result.
No. 27. Epitheloma on lower lip. Two applications of radium. Patient did not return for final inspection.
No. 28. Epitheloma on forehead. Treated with X-ray. Patient did not return for final inspection.
No. 29. Keratosis, girl 24 years old. Good result with radium.
No. 30. Epitheloma from degenerating mole. Good result with X-ray.
No. 31. Three stages of malignancy in one patient. Radium produced good result.
No. 32. Epitheloma. Treated with radium. Writes he is well.

a correction to stop further activity. The pigmented papilloma and, especially, those having melanin are of special interest. They may become very malignant and, should they manifest enlargement, hardness and crusting, an excision, including a wide area of surrounding normal tissue, is advised to be followed by deep radium or X-ray therapy. These different types of papillomae may be found anywhere about the body, and should be regularly observed where they are subjected to constant irritation with rubbing of clothes, jagged teeth, etc., and present any changes.

Warts have always intrigued me, due to the fact they may be so easily influenced in one case and so resistant in others, having been given the same amount and manner of treatment. Just as we find a different degree of sensitivity with radium and X-ray treatment in cancer cells, this is also true where we irradiate warts with radium or X-ray treatment. We need hardly go into the appearance of the common variety of warts other than to say the lesions are infectious and it is well to treat them for that reason alone, bearing in mind the possibility of a suspected malignancy encouraged by frequent irritation.

We are all familiar with the spontaneous disappearance of warts. For which reason, we have many methods for its cure. It seems of no moment to discuss so trivial a subject. Yet, many warts do become malignant and those making their appearance on parts of the body subject to irritation, should be removed. The nicest manner, being with least inconvenience to the patient, is radium or X-ray. The other measures may also be employed and any device such as: cutting or curetting out, high frequency, electrocoagulation, desiccation, etc., all have their advocates. The main object is to get rid of the wart, and we must expect, at times, a recurrence whatever method we use.

Skin Cancer

1. Basal cell epithelioma.
2. Squamous or spindle cell epithelioma.

We have a third division of epitheliomae, which is considered, where the basal cell type has become a more active type, but is not considered a well established squamous cell cancer and the distinction is not general.

The basal cancer is not of a high degree of malignancy and easy to influence and resolve by electric needle, high frequency desiccation and electro-coagulation. However, unless a thorough application of the treatment and its possible extension beyond the edge of permeation, recurrences are frequent and each preceding recurrence more difficult to influence its clinical cure. Therefore, radium or X-ray irradiation treatment offers the best means for its cure as well as the best cosmetic result. The very fact, that a large percentage of basal cell epitheliomae are easy to cure lies a danger and they may be subjected to inferior measures, without proper care and diagnosis for their treatment, and unless realization of impending result is recognized an intractable squamous cancer may develop.

Squamous or spindle cell cancer requires a much larger dose of radium and X-ray to effect a clinical cure and where there is infiltration excision should be employed often followed by irradiation.

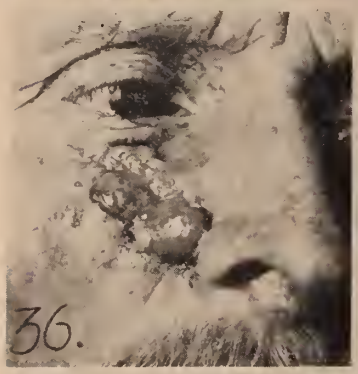
Treatment

The treatment of potential and skin cancer consists of two main considerations: 1. Destruction of the primary lesion. 2. Destruction beyond any extension and permeation. If these measures are well executed, the manner of attack is not so essential, but a nicety. With radium and X-ray irradiation, we have agents which accomplish more successful cures and better cosmetic "end result." One is enabled to subject the ray to the permeation extension, surrounding curetted lesion, and obtain a resulting smooth scar and no deformity. With electro-coagulation, disiccation, electro-condensation and cautery knife, the end results are apt to leave a resulting scar not comparable to radium or X-ray. In cases where there is elevation and infiltration, excision is followed in some cases by X-ray or radium treatment. The important factor, of course, is a recognition of the operator's limit. One must not be hidebound or attempt treatment beyond his powers. Applying the best form of irradiation for the welfare of the patient and its end result towards influencing the lesion, but recognizing failure of treatment when a too literal opinion of its efficiency is evident of its powers. Patients with cancer should be clinically cured in one massive treatment of radium or X-ray. Even on improvement, where we are unable to effect a cure by a second treatment, the exponent of irradiation should recognize his defeat. The symptoms following a massive dose of radium is a constant one. Two or three weeks after irradiation with radium or X-ray massive treatment, according to filter of ray, there is a redness which appears the tenth to eighteenth day, followed by a vesiculation and crusting of the lesion and surrounding permeation area rayed. This

















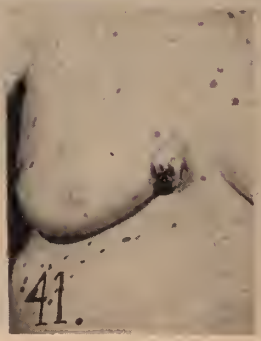
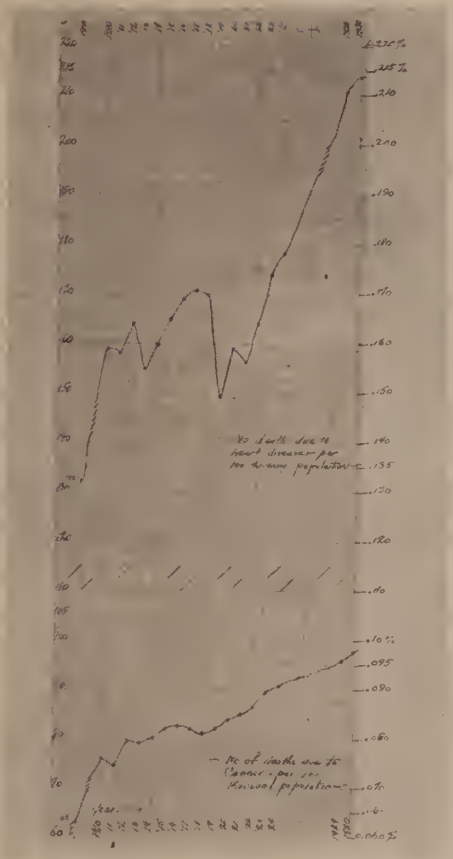




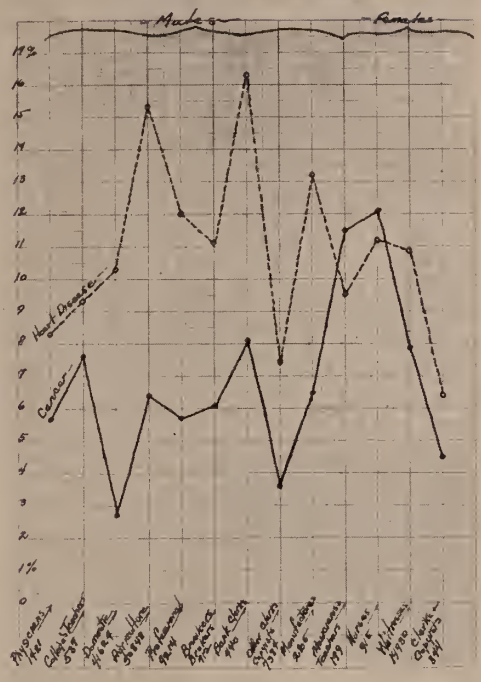
PLATE NUMBER THREE

(Incurable Cases For Toilet Irradiation with Surprisingly Good Results)

No. 33. Epitheloma of orbit. Radium treatment.
No. 34. Improvement.
No. 35. Epitheloma on side of face and neck. Radium produced temporary result.
No. 36. Epitheloma on face. Treated with X-ray with surprisingly good result.
No. 37. Epitheloma at angle of jaw. X-ray produced smooth scar.
No. 38. Epitheloma of leg. 14 years duration. Improved.
No. 39. Extensive involvement of forehead. Massive doses of X-ray.
No. 40. Improvement.
No. 41. Pigmented moles with malignant changes. Referred to surgeon.
No. 42. Epitheloma on cheek. X-ray and radium produced good temporary results.



1.



2.

PLATE NO. FOUR

may separate and require bland, local treatment and is called the peak of the reaction. This reaction gradually subsides, and in eight weeks we should have a smooth, pliable scar to replace the malignancy. Sometimes, due to faulty judgment on the doctor's part, we may have to repeat dose by an additional one, where activity and infiltration is still present. This, of course, is done. The follow-up of these patients is most important and they should be seen, at least, twice a year, as in no case is the honest physician able to "guarantee a cure."

Increase in cancer is so clearly shown by statistics as to invoke no further evasion. These charts shown in the picture are of considerable interest. Finding the two death rates showing an increase were heart disease and cancer, a chart was made on their respective positions, from similar occupations where male and female could be compared. In two instances, nurses and female physicians exceeded the death rate of cancer, while that of clerks and copyists were exceedingly low. Bankers and brokers show a normal increase, whereas male bank clerks show a typical upward curve, which is also found in the death rate from heart disease. The incidence in the occurrence of cancer is most wide spread, no country being free from its toll, although there is mentioned, as authoritative, in the province of Johul, India, (population of 200,000) cancer is unknown, with no solution as to its freedom from this disease.

Artificial Rupture of Membrane as Means of Inducing Labor.—Rucker believes that rupture of the membranes is an efficient means of inducing labor at term and a useful method in certain cases of marginal placenta praevia and toxemias of pregnancy. With a proper technic there seems to be less risk of infection than in uncomplicated spontaneous labors. Apparently there is some risk of a contraction ring developing. The risk of the baby is not great. There is a small chance of the cord prolapsing, especially if the presenting part is not engaged.

60° CONVERGENT STRABISMUS CORRECTED WITH OPERATION*

J. KENNETH HUTCHERSON, M. D.,

Louisville

My chief purpose in presenting this case is to re-emphasize the need of as early a correction with glasses as possible that can be given the child with convergent strabismus. Too many of these cases are neglected, many times due to economic reasons, and quite frequently in the tender years the child with the convergent strabismus is often passed by with the remark that "the child will outgrow this deformity when he or she gets older." All too frequently these children are not given the first aid by correcting their refractive error under cycloplegic and prescribing the proper glass and constant use of these glasses. In these neglected cases the result is, that the squinting eye (if it happens not to be an alternating squint) fails to develop for the lack of use and the child develops an amblyopic eye which, if permitted to go too long, will not develop even though the squint has been corrected through operative procedure and the wearing of proper glasses instituted. The case to be presented now falls in this group of "neglected children" and not until very recently was the child made to realize her condition. This was brought about by her playmates continually "making fun" of her deformity. This caused the parents and the child to seek relief.

Case; age twelve, female, white. At the age of three her eyes became crossed during an attack of whooping cough and for two or three years they alternated first one eye turning in and then the other, and then patient fixed altogether with the right eye, the result being that the left eye was unable to fuse and therefore unable to develop any longer. The patient has had the usual childhood diseases; no history of any serious illness or operation other than a tonsillectomy in April, 1934. She has five sisters and two brothers and all have presented no abnormality of the eyes except one sister five years old with ten degree squint, who is now wearing glasses for this correction and eyes are straight. The general physical examination and laboratory showed no pathology. Examination of the right eye gives a vision of 20-30 uncorrected. This eye has equal excursion in every direction. Vision in left eye is 3-200. This eye turns in from fifty to



Before Operation

sixty degrees. The limbus from six to twelve o'clock is hid within the inner canthus when the patient looks at an object directly in front of her, fixing with the right eye. She cannot fix with the left eye. With the right eye covered she cannot rotate the left eye to the left. With both eyes open the left eye will rotate in every direction, but never sufficiently moving leftward to give the inner limbus of the left eye clearance from the inner canthus. Due to this marked convergence, I was unable to satisfactorily refract the left eye before operation.

On June 22, under general anesthetic, a resection of the external rectus and a recession of the internal rectus of the left eye was done as follows:

Operative Technique: Preliminary morphin sulphate 1-8 and atropine sulphate grains 1-200 thirty minutes before operation under ether anesthesia.

Operation: The area surrounding the left eye was painted with 2 per cent mercurochrome. Lids separated and held in place with eye speculum. A conjunctival opening 2 cm long made vertically 6 mm behind limbus over the external rectus muscle. The conjunctiva dissected loose from the muscle leaving same free for 15-20 mm. behind the limbus.

Tenons capsule picked up with toothed forceps 3 m. m. above upper border of muscle and 5 m. m. from point of insertion and button-holed. Release of forceps was not made until muscle hook was passed through and under the muscle. Tenons capsule was button-holed in same manner 3 m. m. from

*Read before the Jefferson County Medical Society September 17, 1934.

lower border of muscle and opposite first button-hole. The hook was swept under the muscle freeing it from sclera from point of insertion to a distance 19-20 m. m. back. Tenons capsule was separated from muscle backward for a distance of 15 m. m. from insertion. Muscle tendon grasped with Prince forceps 3 m. m. from point of attachment to the eye and firmly clamped. The muscle tendon was now severed with scissors 2 m. m. in front of the forceps. With No. 5 black twisted silk, needles on both ends, mattress suture was made through muscle from within out going 5-6 m. m. behind the forceps, picking up the outer flap of conjunctiva. With No. 3 black twisted silk, single needle, a wing suture passed through muscle and conjunctiva. Similar wing suture made through the lower border of muscle. The muscle tendon was now cut 1 m. m. in front of mattress suture and these sutures brought through the stump from within out picking up the corneal flap of conjunctiva and tied loosely in one knot. The wing sutures were now brought through upper and lower borders of the stump from within out and picking up the conjunctiva. The mattress suture was now tied firmly drawing the muscle tendon in close apposition to the stump. The wing sutures tied singly brought the conjunctiva together. This completed the above resection of the external rectus muscle. Recession was now done on the internal rectus. The same technique as done on the external rectus was followed here up to the place of reattaching the muscle tendon with two exceptions, namely, the mattress suture was made from without in, and tenons capsule was split perpendicular above and below the muscle to give more freedom of motion to the eye. The mattress suture was then anchored in the sclera 5 m. m. behind the stump, by passing them through the episclera, being careful at all times to see the point of the needle as it passed through the outer fibers of the sclera. The mattress sutures were then anchored firmly in the stump going from within out picking up the conjunctiva. The wing sutures were now brought through the stump as on the resection. The mattress suture now tied firmly in the stump, brought the end of the muscle tendon in close apposition to the sclera, 4-5 m. m. from the stump. The wing sutures were tied which brought the conjunctiva together except in the center, another suture closed this. Adrenalin chloride 1-1000 was used throughout the operation to lessen the hemorrhage which was practically nil. 1-3000 bichloride ointment was expressed in each eye, the eye pad put on each eye and both bandaged.



After Operation

The eye was dressed twice daily while in the hospital. Both eyes were completely atrophinized for the first three or four days; given the right eye the third day after the operation. Patient left the hospital on the sixth day. The left eye was slightly over corrected and remained so for about seven days. The mattress sutures were removed on the eighteenth day. At this time the eyes were in perfect alinement and the left eye had good excursion in every direction, the limit being most marked internally. Patient was refracted three weeks following the operation and given the following correction O. D.+ 1.50 = 1.75 ax 90 20-30. O. S. + 1.50 = +1.75 ax. 90 20-100. At this time it was noticed there was between five and ten degrees of squinting in the left eye without the glasses but in perfect alinement with glasses on. Patient was instructed to cover the good eye one hour daily and use the left eye in cutting out paper dolls, drawing pictures or doing anything that she could see to do to keep the eye in constant use during that period.

Five months later she returned having followed out these directions and was able to read 20-50 with the left eye. Although this case was twelve years of age before any kind of treatment was instituted, yet the vision of the amblyopic eye at this age has decidedly improved and we have reason to believe that still better vision will be obtained in this eye over a prolonged period of time.

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NEXT MEETING LOUISVILLE
September 30, October 1, 2, 3. 1935

COUNTY SOCIETY REPORTS

Grant: The Grant County Medical Society met at Williamstown Wednesday, May 15th, 1935, for an all day meeting.

Dr. Wallace Frank of Louisville, gave an interesting lecture, as special program, from the Cancer Committee of the State.

The visiting Doctors present were: J. G. Renaker, Ed Northcutt, Smith, Headly Caldwell, Ashley Caldwell, all of Covington, Kentucky, and Bonar of Newport.

The meeting was opened by our president, Dr. Marshall, and we immediately dispensed with all business and took up the topic of the day, a lecture on "Cancer of the Lip, Tongue, and Oral Mucous Membrane." Dr. Frank delivered an up-to-the minute lecture on Cancer of these regions.

At 12:00 a. m. we adjourned for lunch at the Hotel Donald.

We returned promptly at 1:00 p. m. and discussion of Dr. Frank's lecture was opened. This was entered into by all present, visitors and members alike. Some interesting malignant cases were presented. One by Dr. Ellis and one by Dr. Davis. Dr. Blaine presented a case of Infantile Paralysis with the recovery with enlargement of the head. These cases were discussed by members present.

C. A. ECKLER, Secretary.

IN MEMORIAM

Dr. Walter Cox was born in Estill County August 26, 1888. After graduating from the Estill Collegiate Institute he entered the college of medicine of the University of Louisville and received his doctor's degree in 1912. He then served an interneship in St. Anthony's Hospital in Louisville for eighteen months. Dr. Cox was engaged in practice in Bourbon and Fayette Counties until 1924 except for his medical service in the U. S. Army from which he left with the rank of captain.

Dr. Cox returned to his native county, Estill, in 1924, and has been prominently active in the practice of medicine at Irvine since that time. He organized and served as secretary and treasurer of the Estill County Medical Society. Dr. Cox is survived, in his immediate family, by his wife and three children.

NEWS ITEM

The graduating class of 1924 School of Medicine, University of Louisville will hold its first "Reunion" in Louisville, during the Kentucky State Medical Meeting which convenes September 30 to October 3. A banquet is being prepared for the members of the class and their wives. For further information please communicate with Dr. J. Kenneth Hutcherson, Francis Building, Louisville.

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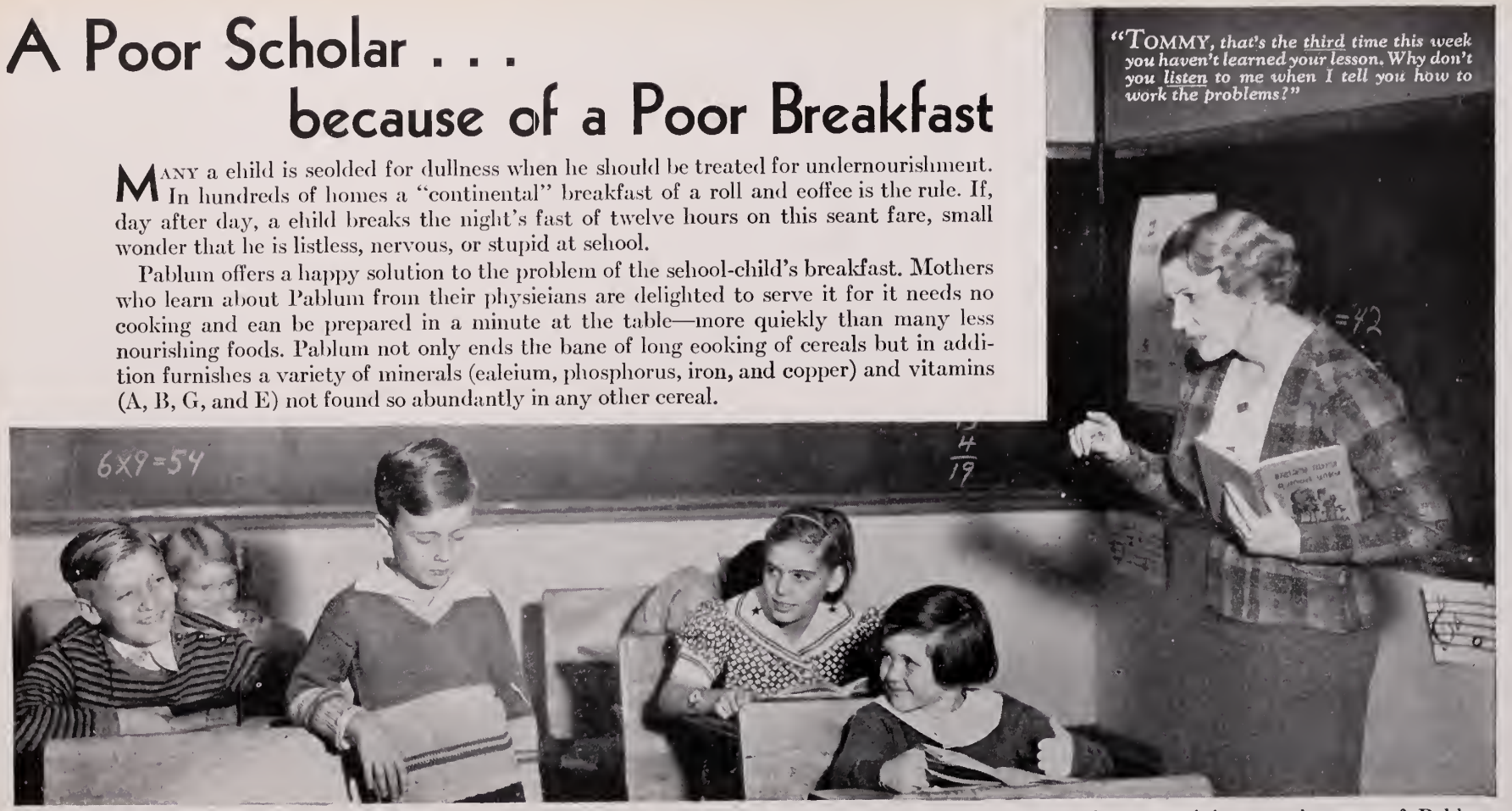
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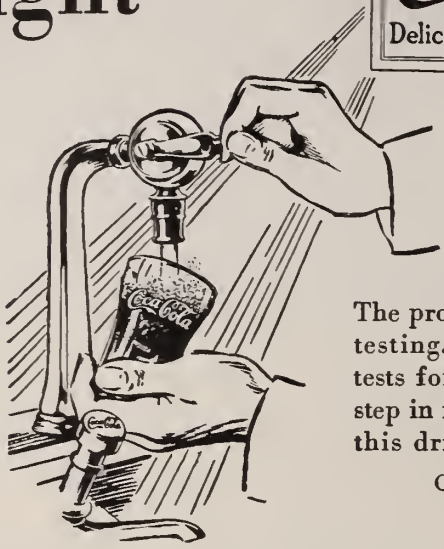
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Breathitt	Frank K. Sewell	Jackson	October 15
Breckinridge	J. E. Kincheloe	Hardinsburg	October —
Bullitt	S. H. Ridgeway	Shepherdsville	October —
Butler	G. E. Embry	Morgantown	October 2
Caldwell	W. L. Cash	Princeton	October 1
Calloway	W. H. Graves	Murray	October 3
Campbell-Kenton	Luther Bach	Bellevue	October 3-17
Carlisle	J. F. Dunn	Arlington	October 1
Carroll	J. M. Ryan	Carrollton	October 8
Carter	W. S. Hawn	Grayson	October 8
Casey	Wm. J. Sweeney	Liberty	October 24
Christian	M. A. Gilmore	Hopkinsville	October 15
Clark	R. E. Strode	Winchester	October 18
Clay	J. L. Anderson	Manchester	October 8
Clinton	S. F. Stephenson	Albany	October 19
Crittendon	C. G. Moreland	Marion	October 14
Cumberland	W. F. Owsley	Burkesville	October 3
Daviess	I. A. Thorpe	Owensboro	October 8-22
Elliott	W. H. Joyner, Act. Sec.	Sandy Hook	
Estill			October 9
Fayette	John Harvey	Lexington	October 15
Fleming	C. W. Christine	Flemingsburg	October 9
Floyd	J. G. Archer	Allen	October 30
Franklin	W. S. Snyder, Jr.	Frankfort	October 3
Fulton	J. C. Morrison	Hickman	October 9
Gallatin	J. M. Stallard	Sparta	October 17
Garrard	J. E. Edwards	Lancaster	October 17
Grant	C. A. Eckler	Dry Ridge	October 16
Graves	H. H. Hunt	Mayfield	October 1
Grayson	C. F. Blankenship	Leitchfield	October 31
Green	S. J. Simmons	Greensburg	October 7
Greenup	C. W. Monroe	Greenup	October 11
Hancock	F. M. Griffin	Hawesville	October 7
Hardin	D. E. McClure	Elizabethtown	October 10
Harlan	W. R. Parks	Harlan	October 19
Harrison	W. B. Moore	Cynthiana	October 7
Hart	S. F. Richardson	Munfordville	October 1
Henderson	Walter O'Nan	Henderson	October 14-28
Henry	Owen Carroll	New Castle	October 28
Hickman	Chas. Hunt	Clinton	October 3
Hopkins	David L. Salman	Madisonville	October 3
Jackson	Uley H. Smith		October 5
Jefferson	Uly H. Smith	Louisville	October 7-21
Jessamine	J. A. VanArsdall	Nicholasville	October 24
Johnson	P. B. Hall	Paintsville	October 12
Knott	M. F. Kelley	Hindman	October 26
Knox	T. R. Davis	Barbourville	October 25
Larue	D. W. Gaddie	Hodgenville	October —
Laurel	Oscar D. Brock	London	October 9
Lawrence	W. C. Gose	Louisa	October 21
Lee	W. D. McCullom	Beattyville	October 12
Leslie	John H. Kooser	Hyden	October —
Letcher	R. Dow Collins	Whitesburg	October 29
Lewis	J. D. Liles	Vanceburg	October 21
Lincoln	Lewis J. Jones	Houstonville	October 18
Livingston	Wm. C. Davis	Salem	October —
Logan	Walter Byrne, Jr.	Russellville	October —
Lyon	H. H. Woodson	Eddyville	October 1
McCracken	Leon Higdon	Paducah	October 23
McCreary	R. M. Smith	Stearns	October 7
McLean	G. L. Thompson	Calhoun	October 10
Madison	Lewis C. Coleman	Richmond	October 17

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Marion	W. A. Risteen	Lebanon	October 15
Marshall	S. L. Henson	Benton	October 16
Mason	O. M. Goodloe	Maysville	October 9
Meade	A. A. Baxter	Brandenburg	October 24
Menefee	E. T. Riley	Frenchburg	October —
Mercer	J. Tom Price	Harrodsburg	October 8
Metcalfe	E. S. Dunham	Edmonton	October 1
Monroe	P. W. Bushong	Tompkinsville	October —
Montgomery	D. H. Bush	Mt. Sterling	October 8
Morgan	W. H. Wheeler	Betsy Sayne	October —
Muhlenberg	E. L. Gates	Greenville	October 8
Nelson	R. H. Greenwell	Bardstown	October —
Nicholas	T. P. Scott	Carlisle	October 21
Ohio	Oscar Allen	McHenry	October 2
Oldham	S. J. Smock	LaGrange	October 8
Owen	K. S. McBee	Owenton	October 3
Owsley	D. E. Wilder	Booneville	October 7
Pendleton	W. A. McKenney	Falmouth	October 9
Perry	R. L. Collins	Hazard	October 14
Pike	D. Flanary	Pikeville	October 7
Powell	W. Johnson	Stanton	October 7
Pulaski	M. C. Spradlin	Somerset	October 10
Robertson			October 21
Rockcastle	Lee Chestnut	Mount Vernon	October 10
Rowan	A. W. Adkins	Morehead	October 14
Russell	J. B. Scholl	Jabez	October 3
Scott	F. W. Caudill	Georgetown	October 17
Shelby	W. E. Morris	Shelbyville	October 8
Simpson	N. C. Witt	Franklin	
Spencer			
Taylor	W. B. Atkinson	Campbellsville	October 10
Todd	B. E. Boone, Jr.	Elkton	October 2
Trigg	H. L. Wallace	Cadiz	October 30
Trimble	J. J. Gerkins	Bedford	October 30
Union	D. C. Donan	Morganfield	October 9
Warren	Hal Neal	Bowling Green	October 16
Washington	J. H. Hopper	Willisburg	October 3
Wayne	R. E. Teague	Monticello	October 25
Webster	C. M. Smith	Dixon	October - -
Whitley	C. A. Moss	Williamsburg	October 7
Wolfe	G. M. Center	Campton	October 3
Woodford	Chas. F. Voigt	Midway	

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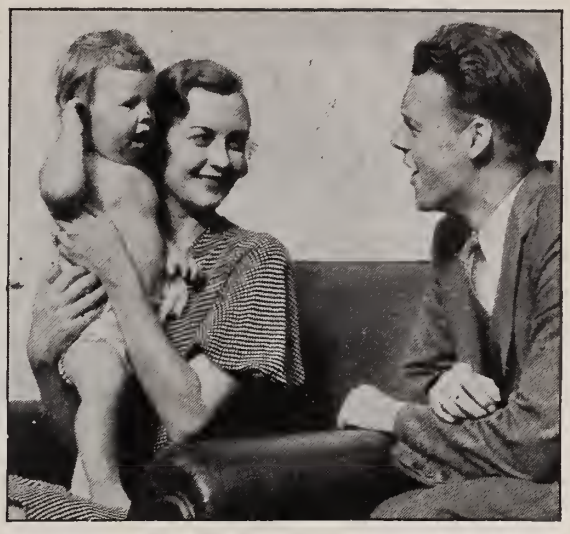
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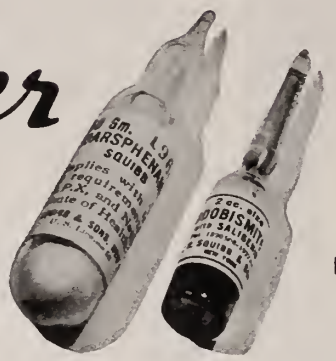
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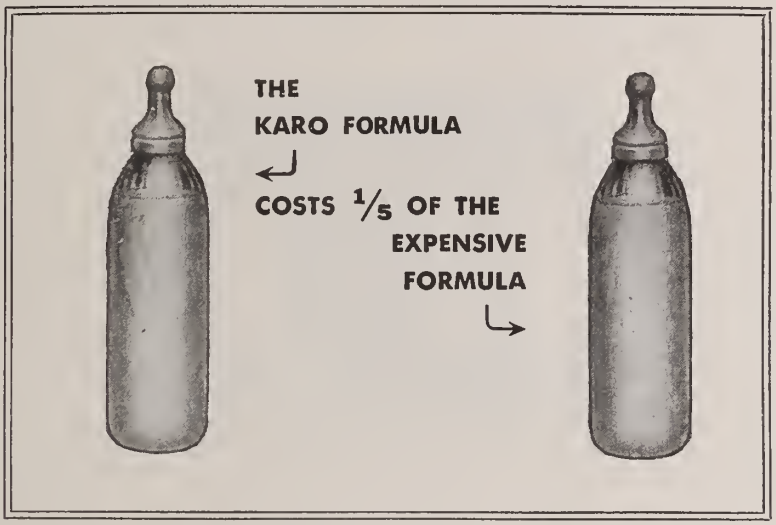
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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

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AMERICAN PUBLIC HEALTH ASSOCIATION

Leaders of public health and preventive medicine from every state of the union and from several foreign countries are to be at hand for the sixty-fourth annual convention of the American Public Health Association to be held in Milwaukee from Oct. 7 to 10.

Workers in all fields of public health, medical men, nurses, specialists in research and others in allied activities are cordially invited to be present.

Important developments of the year in preventive medicine, in the extension of public health work and in the constant war on contagious disease will be unfolded at the gathering. The convention has come to be the place at which first announcement is made of scientific advances in public health and disease prevention. For railroad rates and further information communicate with the Association office at 50 West 50th St., New York.

EXTENSION EDUCATION IN PHYSICAL THERAPY

One of the aims of the Council on Physical Therapy of the American Medical Association is to promote extension education in physical therapy.

The Committee on Education of the Council believes that one of the best ways of extending postgraduate instruction in physical therapy is to arrange for practical talks to be given before state, county or other medical societies. Experience, especially in New York and Pennsylvania, has shown that such programs are eagerly received by the profession.

The Council is prepared to assist medical societies by furnishing general advice as to programs and by suggesting qualified personnel.

The following topics are offered as being of interest to the general practitioner:

The Present Status of Physical Therapy
Physical Therapy in General Practice
Body Mechanics and Posture Training
Massage—Indications and Effects
Pathological Conditions Helped by Physical Therapy
Therapeutic Exercise
Radiation Therapy
Hydrotherapy
Fever Therapy
Diathermy, Medical and Surgical, Including Short Wave

Motion pictures on the following subjects are available for loan:

Massage—Technic
Graduated Active Motion
Occupational Therapy
Effects of Heat and Cold on Blood Circulation
Effects of Masssage on Blood Circulation

In addition, exhibits on physical therapy can be arranged in conjunction with the Committee on Scientific Exhibit, available on request.

Anyone desiring help in program planning or loans of films or exhibits is advised to write the Secretary, Council on Physical Therapy, A. M. A., 535 North Dearborn Street, Chicago, Illinois.

KENTUCKY SOCIETY OF RADIOGRAPHERS

The Kentucky Society of Radiographers will hold their 5th Annual meeting on October 28, 1935 at the Brown Hotel, Louisville, Kentucky. Since legal registration is required of X-ray technicians in the State, it is important that physicians encourage their technicians to attend this meeting, as the day will be given over to the presentation of papers of vital importance to every one doing X-ray work..

The evening session will be devoted to a dinner and dance to which the medical profession and all X-ray technicians are invited.

A NEW MEDICAL DICTIONARY

Our friends, the W. B. Saunders Company, of Philadelphia, have just brought out the Seventeenth Edition of the American Illustrated Medical Dictionary, by W. A. Newman Dorland, A. M., M. D., F. A. C. S. Doctor Dorland is a member of the Committee of Nomenclature and Classification of Diseases of the American Medical Association. This volume contains 1573 pages, and 945 illustrations, of which 105 are in colors. With flexible binding it costs $7.00, or with thumb index $7.50.

PRIMARY ADENOCARCINOMA OF THE KIDNEY*

LYTLE ATHERTON, M. D.,

Louisville

Primary adenocarcinoma of the kidney according to literature is, comparatively speaking, an uncommon manifestation of the kidney, the hypernephroma being the most common.

Lubrasch gathered reports of 32 cases of Papillary Adenocarcinoma in 1931, and to date many others have been reported with unusual metastasis. Many are overlooked, and un-diagnosed for lack of clinical symptoms and laboratory findings. For example Caldwell reported a case who presented no clinical symptoms or laboratory findings which would suggest adenocarcinoma but diagnosed at autopsy.

It is unfortunate for the patient who has been neglected because of lack of facilities or experience in cystoscopic, laboratory and X-ray technique until a mass is felt in the abdomen, usually detected by the patient himself. Hence, these two cases are presented primarily because of too little attention being paid to the average case who presents himself with dull ache in the back, or the findings of blood in the urine either macroscopically or microscopically.

Case 1. C. J. K., Nurseryman. White and married, referred by his physician on April 3, 1934 because of a persistent dull ache in the right back, and a history of hematuria of two or three days duration. five or six weeks ago.

Past Health: Has always been good with no recent loss of weight. His appetite has remained good, no constipation, diarrhea. or pain, burning or frequency on urination.

Family History: Is negative for T. B. or Cancer.

Physical Examination: Patient is well developed and nourished. Male adult, 45 years of age. The skin is moist, mucous membrane normal.

Eyes: Has good vision. Pupils react to light and accommodation; ears and nose, nothing remarkable.

Mouth: Tongue is moist and clean. Several carious teeth.

Glandular System: Cervical, axillary, epitrochlear and inguinal glands are negative.

Chest: Respiratory excursion is regular and equal with no abnormal breath sounds.

Heart: Not enlarged, apex in the fifth interspace and within the left nipple line. No murmurs or friction rubs.



Case 1, Figure 1

Abdomen: Is not distended; no mass or rigidity detected.

There is a slight subjective tenderness noted on deep palpation over the right kidney.

Genitalia: Normal.

Extremities: Normal.

Reflexes: All normal.

Temperature, pulse and respiration are normal.

Blood Pressure: Systolic 140, diastolic 70.

Urine: (voided specimen) amber; acid reaction; Sp. Gr. 1,024; trace of albumen; no sugar; no diacetic, or indican; 7 to 10 plus cells and 1 to 3 red cells per field.

Blood count: Hemoglobin 69 (Sahli method). Color index .9; R. B. C. 3,940,000; W. B. C. 9,200.

Cystoscopic Study: No urethral obstruction encountered, bladder interior normal, including trigone, ureteric ridges and ureteral orifices (right and left). No. 6 catheter was passed bilaterally without obstruction for a distance of 22 c. m.

Specimen collected from each; the right containing 4 to 6 pus cells and 1 to 2 red cells per H. P. F., while on the left there was an occasional pus cell with no red cells. P.-S. P. from the right: 20 c. c. 20 per cent in 30 minutes. The left showed 30 c. c., 25 per

*Read before the Jefferson County Medical Society, September 3, 1934.

cent in 30 minutes. Blood sedimentation test 25 m. m.

X-ray: Chest films were negative.

K. U. B., flat picture was negative for stones, and the outline of the kidneys were normal in size and position.

Pyelogram: Using 12½% Sodium Iodide on the left side shows normal pelvis and calices, 7 c. c. capacity. On the right the capacity was 12 c. c.; pelvis being small and to a very great extent obliterated. The upper and middle calyx were considerably enlarged and with the cupping entirely lost. The lower calyx appears to assume a distinct transverse position; is 3 c. m. in length and the inner portion is quite irregular and ragged, quite unlike the appearance found in the presence of stones.

There appears to be a distinct tumor mass measuring about 2 by 3 c. m. in the mid portion, and which is encroaching upon the pelvis. (See fig. 1, case 1.)

Diagnosis: Hypernephroma, right.

Patient was admitted to St. Joseph Infirmary on April 3, 1934 and on the following day was operated upon. The usual right flank incision for exposure of the kidney was made. The kidney was slightly adherent to the peritoneum which was easily separated by blunt dissection and mobilized. The renal artery and vein were clamped, ligated and incised after which the ureter was dissected free for a distance of about 6 c. m.; ligated, incised and cauterized, and the distal end allowed to retract. No enlarged glands were apparent. Wound closed with one cigarette drain at the lower angle of the incision.

Convalescence was uneventful; the temperature, pulse and respiration returning to normal on the fourth day, and discharged from the hospital on the 11th postoperative day.

Pathological Report: Gross description: Kidney is slightly larger than normal, showing a bulging tumor in the middle anterior portion which has a yellowish gray color. Tumor mass measured about 30 m. m., and merges gradually into the surrounding tissue. (Case 1. Figure 2.) A second tumor appears to arise as a pedunculated mass from the tissue in the pelvis.

Microscopical sections of tumors show adenocarcinoma. Certain areas show rather definite circumscribed groups of acini, erroneously diagnosed adenoma.

Microscopic Diagnosis: Adenocarcinoma of Kidney. (Harry M. Weeter).

Additional follow up on this case is as follows:



Case 1, Figure 2

During April and May a total of 30 34 R. units (International) X-ray were given anteriorly and posteriorly, approximately 90 per cent to the kidney area.

X-ray of the chest on May 15th shows metastasis in both lungs at hilum, which metastatic areas were of somewhat a ragged appearance and re-X-rayed again on the 22nd of August at which time metastatic areas of glandular involvement appeared to be more discrete without evidence of additional metastasis. His appetite has remained good, sleeps well, but has lost a great deal of weight and complains of weakness. The terminal outcome is not favorable.

Case No. 2: Mrs. M. S. Housewife. Jewish. Admitted to St. Mary and Elizabeth Hospital on July 24th, 1934.

Chief Complaint: Mass in the left abdomen with some pain.

Present Illness: Began some months ago when she complained of indefinite pain in the abdomen, simulating a heavy or weight discomfort; constipation and general malaise. No cardiac, respiratory or urinary symptoms. Has for years complained of minor ailments.

Family History: Is negative for T. B. or malignancy.

Physical Examination: Female, age 60, well developed and nourished, slightly obese; does not appear to be acutely ill. Skin is dry and atrophic, mucous membrane pale.

Head and neck: Nothing unusual.

Chest: Equal bilaterally, respiratory sounds were normal.

Heart: Sounds are clear and distinct, no murmurs or enlargement.

Abdomen: Muscle tone very lax. Liver not enlarged and with no definite tenderness. There is a small mass felt in the left side below the costal margin which is firm, deep-seated and appears to have a sharp edge. There appears to be a notch on the inner surface and does not appear to be movable.

Pelvis: Bones, joints and glandular system were not remarkable.

Blood pressure: Systolic 160, diastolic 90, pulse and temperature normal.

Bladder specimen of urine (voided) light amber, turbid, alkaline reaction; Sp. Gr. 1,016; albumen 1 plus; sugar negative, acetone negative. Many epithelial cells. Bacteria two plus. No blood or pus recorded. Occasional mucous shreads.

Blood: Hemoglobin 59.2 per cent; color index .7; R.B.C. 4,800,000; W.B.C., 9,900; Polymorphonuclears 70 per cent. Small Lymphocytes 26. Large Lymphocytes 2. Eosonophil 2.

Working Diagnosis: (1). Enlarged spleen (2) Arteriosclerosis (3) Senile psychosis.

On July 26th cystoscopic study was made. Bladder interior was normal including trigone and ureteral orifices. No. 6 catheter passed without difficulty for 20 c. m. and urine collected from each kidney separately. The left contains many epithelial cells, one pus cell and three red cells, per H. P. F. The right contains many epithelial cells, occasional pus cell, and no red blood cells.

P. S. P. Right 15 c. c.; 32 1-2 per cent in 30 minutes. Left 5 c. c. 12 1-2 per cent in 30 minutes.

Pyelogram: Left. Capacity being 5 c. c. and having the typical appearance of a spider web deformity of the calices. (Figure 1, case 2). The upper is small and appears to be blunted, while the middle is very small pushed slightly upward, and has a loss of minor cupping, the inferior is pushed definitely downward, and inward and terminates in a point. There is a decided mass as evidenced by a shadow beginning in the middle calyx, on a line with the second lumbar vertebra, and extending downward to the mid portion of the fifth lumbar vertebra, well below the crest of the ileum.

Before patient was submitted to cystoscopic study films of the K. U. B. tract was made the findings of which are as follows.



Case 2, Figure 1

There is a dense lobulated shadow in the left side of the abdomen which has the appearance of a greatly enlarged kidney. Right kidney shadow is normal. Film made 10 minutes after intravenous dye was given of Diodrast shows right kidney pelvis and calices to be well outlined, and normal in appearance and size.

The left kidney pelvis and calices are greatly deformed and there appears to be a large lobulated mass in the lower pole of the kidney. The inferior calix is not seen. Films 20 and 30 minutes show about the same as before. (J. C. Bell).

Diagnosis: Renal carcinoma.

On July 27th patient was submitted to operation. The usual oblique incision being carried out over the left lumbar region. Kidney was mobilized with a great deal of difficulty due to dense adhesions about the lower portion. Renal artery and vein were clamped, ligated and incised. The ureter was freed for the distance of about 2 c. m., clamped, incised and cauterized. Wound was closed with drainage from the lower angle of the incision.

Convalescence was uneventful after a rather stormy period, during which there was a suppression of urine and which was relieved by the administration of salyergan. The temperature and pulse returned to normal on the 4th postoperative day, and pa-



Case 2, Figure 2

tient was discharged from the hospital on August 10th.

This patient is receiving deep therapy the same as the previous case reported.

Pathological Report: Gross examination is as follows: Incised kidney shows neoplastic tumor involving approximately three-fifths of the kidney. (Fig. 2, case 2.) This mass consists of a spongy papillomatous growth. Microscopic sections through neoplastic tissue show cells arranged in solid masses and acini. Many of the latter are large and irregular and show papillar enfolding of epithelium.

Microscopic Diagnosis: Adenocarcinoma. (Dr. Weeter).

The outcome in this case as in case No. 1 is likewise unfavorable.

DISCUSSION

E. S. Allen: The interesting part of this report to me is the thorough manner and painstaking methods employed by Dr. Atherton in making the diagnosis, and the precaution observed in making an X-ray picture of the chest to determine whether or not metastasis had taken place, before considering operation.

I am inclined to doubt the ultimate benefit from operation in a case of frank malignancy of the kidney. It is an operation in which the pathological specimen unavoidably receives rough handling, and as malignant tumors are so loosely held together with so little stroma, the slightest pressure or manipulation is very likely to dislodge some of the cells, with resultant recurrence of metastasis.

I recall a case of a rather large hypernephroma of the kidney operated upon by me, and the patient made such a favorable operative recovery as to encourage his sister to come in for removal of a large tumor in her left side. Upon exploratory operation under local anesthesia, I doubted the feasibility of removing the tumor because of its large size. In the course of the examination we discovered very large venous sinuses coursing across the kidney. The patient was a very stout woman and operation was deemed inadvisable. I had Dr. Keith make an application of radium anterior and posterior to the kidney while wound was open. The first mentioned patient, this woman's brother, died about two years after operation with metastases in almost every part of the body. The woman lived five or six years in apparently perfect health and then developed a secondary growth. Dr. Keith again applied radium anterior and posterior to the kidney. However, we know that these tumor cells after a few applications of radium become radio-refractive and do not respond further to radiation, and it was so in this case.

As stated before, in the presence of a frank malignancy of the kidney I am inclined to doubt the ultimate advantage of operation. However, we do operate these cases, and I am afraid if such a case were to come under my observation tomorrow I would consider operation, in the hope that I would be able, by making a large incision and clamping the pedicle, to remove the tumor without too much manipulation. We are all familiar with the danger of recurrence or metastases resulting from too much manipulation in carcinoma of the bowel, and I believe the same danger is present in accentuated degree in malignancy of the kidney and that radiation is to be preferred to surgical procedure in many such cases.

Geo. A. Hendon: I have never been able to find a line of distinction or demarcation between hypernephroma and carcinoma of the kidney, clinically or any other way. Furthermore. I have gained the impression that either condition presents such a marked degree of malignancy that discrimination between them matters little. I was rather hopeful, however, that the matter would be cleared up by this discussion. Is a hypernephroma a potential carcinoma or what is their relationship? If it is, it would seem that hypernephroma should be removed, identified and classified, although I think the interest in differentiation is academic rather than practical.

D. Y. Keith: I have seen quite a number of these cases diagnosed early in which the tumor was so small that it would have been impossible

to diagnose the condition by any other means than surgical removal. In some of these cases malignancy was not suspected until the pathological report was received. In one case which I recall very vividly, the woman never obtained complete relief from pain following operative procedure, and when I saw her again, three and one-half months later, she had a recurrence of the tumor at the site of the previous operation. Radiation, even to the extent of introducing radium into the growth itself under general anesthesia, had practically no effect. Her pain was never relieved. For six weeks she received an average of 10½ grs. morphin per day. At autopsy it was found that the tumor extended from the diaphragm down into the pelvis and there were one or two little metastatic nodes in the lungs. It had eroded one lumbar vertebra and had practically perforated the vena cava, and still there was very little metastasis.

I was interested in an article by Waters published in the Southern Medical Journal recently in which several cases of hypernephroma in children were reported, the majority of which responded to radiation. Some of these cases had gone on for a period of three years or more with only one or two recurrences. In every instance the tumor was markedly reduced in size and the child increased in weight and was relieved of pain.

Very early cases of hypernephroma are usually operated upon before a positive diagnosis is made. Where there is a massive tumor, as in the second case reported by Dr. Atherton, I believe it is best to radiate such patients first and operate later, or perhaps not operate at all.

Guy Aud: I have been very much interested in Dr. Atherton's report. We know that these tumors invariably recur, with early metastasis, usually into the lung.

During the past two or three months I read an article in one of the journals in which the author stated that the renal vein is involved rather early and undoubtedly in many cases this involvement extends beyond the point where the vein is clamped, and this may have something to do with early recurrence. It would be interesting, in operating one of these cases, to split the vein open and see whether the involvement extends beyond the point where it is clamped, and I intend to do it in the next case I operate upon.

L. Atherton (Closing): So far as differential diagnosis between hypernephroma and Adenocarcinoma or any other type of malignant tumor of the kidney is concerned, the truth of the matter is that it is seldom made outside the laboratory.

The point to be emphasized in connection with the cases reported tonight is the importance of paying attention to comparatively minor symptoms, manifested by apparently normal individuals—a slight pain in the back, a little blood in the urine, or a history of dark-colored urine. In many such cases a cystoscopy is indicated.

I cannot enlighten Dr. Hendon on the point raised in his discussion. However, I believe any tumor of a kidney should be removed in the hope that it is a hypernephroma rather than a carcinoma.

As far as radiation is concerned, it is palliative, not curative. As far as we know there is no cure for cancer. Radiation often gives temporary relief but in tumor of the kidney we cannot depend upon it for a cure.

THE DEADLY TREND OF GOITER AND ITS CURE*

WILLIAM D. HAGGARD, M. D., F. A. C. S., D. C. L.

Nashville, Tennessee

Goiter begins in adolescence and often continues in some phase during the entire lifetime of the patient. Dysfunction is the essential result. At times the hypofunction or hyperfunction seem to take precedence. We can only judge of the changes of this function by the effect it has upon the economy as a whole. The function of the mysterious thyroid gland cannot be measured directly, because there is no external escape from its secretion. It is a perversion of the normal, even though there is increase or decrease.

Goiter is believed to be an iodine deficiency, insufficient to maintain the thyroid in the state of normal iodine satuation. Other causes are operative—food, water supply, heredity, infection, repeated pregnancies, psychic trauma and sex imbalance. Crile asserts that the function of the thyroid is fabrication of iodine into organic compound, which exercises a basic control over the bodily processes.

Thyroidectomy is a biological experiment to determine the normal behavior of the amount of the thyroid left in. It is usually successful.

Changes in the thyroid begin with the development of the endocrine system. These changes that manifest themselves in later life probably had their origin at the important biological cross roads of adolescence. Goiter is capable of producing not only the cardiopathy that we recognize, but certain ill-defined nervous manifestations and nu-

*Read before the Kentucky State Medical Association, Harlan, October 3, 1934.



Fig. I. Exophthalmic Goiter in girl of 11. B. M. R. +62%

tritional disorders that may be responsible for a premature senility.

The multinuclear goiters that remain for many years without toxic symptoms are prone to give insidious and very serious effect upon the cardiac and vascular system. When toxic they are more serious than a frank exophthalmic goiter, which early puts out the tell-tale exophthalmos and stary eye.

Hertzler says "The terminal picture of all goiters is the same; death from constitutional diseases, chiefly cardiac."

The spontaneous cure of goiter after the twentieth year is very questionable. The disease is most likely to reappear and cause further disturbances.

Looking upon goiter as a continuous process the difficulty of classifying the entire gamut of the various stages is apparent. The thyroid is the link between the generative system and the nervous system. What we denominate as an adolescent goiter in youth we see as an adenoma later, which may become toxic in middle life and be the cause of the patient's undoing from affection of the heart in later life; one continuing process with varying manifestations and a tragic ending. We have learned that there is no medical treatment of any permanent avail. A temporary "cure" usually coincides with some natural recession. Goiter at some time, or in the end, may be the determinating factor in the patient's exodus. When the heart and other constitutional changes occur it is not always realized that it was caused by the goiter, because it has been a long time in manifesting itself.

The diffuse colloid goiter of children is a work hypertrophy of pubescence, and will often recede spontaneously or improve under iodine. The goiter may be latent and recur in later years and later still may change into toxic or exophthalmic goiter.

There occur in adolescence also the fetal adenomata, which are small tumors the size of a hazel nut at first. The are prone to degenerate into cancer in mature life.

The diffuse colloid type in the young adult may become the nodular goiter when the patient is thirtyish. In the fourth decade the adenoma may become toxic with untoward effects upon the general system and particularly upon the heart and nervous system. One cannot expect a recovery from either of these varieties without operation. Who is to say therefore when the goiter is innocent? The question may be asked "Is it ever innocent, except temporarily?"

The adenoma, while non-toxic, has been denominated nodular or colloid goiter. The acini are filled with colloid. Chronologically, it is the connecting link between the adolescent goiter and the toxic adenoma into which it often degenerates in later life. They are usually lobulated. Inasmuch as one in five approximately will become toxic adenoma, the question may well be asked, what does it profit a patient to carry one of these goiters indefinitely, particularly through a stage when it is so much more safely and permanently dealt with surgically. A colloid goiter in the thirties may apparently be innocent and supposedly symptomless. In the forties it may become thyrotoxic (and is known as a toxic adenoma). Before a patient reaches three score they may have cardiac decompensation. From a prophylactic standpoint there is no time like the beginning of an adenoma for its successful cure. In our clinic over 400 cases of nodular, nontoxic adenoma have been removed without a death. Even in the later stages removal is attended with almost unbelievable improvement in the health and well-being of the patient.

Adenomata cause pressure symptoms and palpitation. If loss of weight cannot be otherwise accounted for, it probably means that the goiter is passing into the toxic stage. Marked pressure symptoms suggest the substernal or intrathoracic type of goiter. The patient sometimes is unable to lie on the affected side from choking. Hemorrhage into the gland may quickly increase its size with proportionate increase in the pressure ef-

fect. Constriction may also amount to suffocation. The typical colloid is globular, smooth and elastic. They are quite movable, unless lobulations incarcerate them in the tissues of the neck. Hemorrhage into the gland may ultimately make it cystic. Degeneration sometimes resembles the center of an over-ripe tomato. Calcification is shown by the hard, irregular and sometimes bone-like feel.

The enlargement of the various nodules may intrude themselves behind the trachea or through the superior straight into the thorax. In such migration the pedicle may be so attenuated as to become easily detached and the deeper portion overlooked.

Unrecognized thyroid adenomas are mistaken for cardio-vascular disease in a considerable per cent of the cases. They are hard to diagnose, but they give a feeling of nervous tension and apprehension, and a sensation to the patient that they are carrying too heavy a load, and are sometimes classified as being psychoneurotic.

The only reason why the unfortunate advice "not to bother the goiter until the goiter bothers you" is accepted at all is because of slow changes in the goiter. This advice may lull the patient into a sense of security temporarily, but it may often be the most insidious and dangerous advice.

When it is clear that the goiter does not, cannot, and will not go away by itself, and that it must be removed, the patient often says: "If ultimately, why not now?"

Lahey says the possibility of restoration of cardiac capacity after removal of the associative thyroidism in thyro-cardiacs is extraordinary. The recovery of the heart function after an operation for toxic adenoma is very striking, even in the presence of edema and dyspnea. It is so strikingly successful that one might surmise what would be the result if all heart diseases were due to removable goiter, for its good result to the patient.

Intra-Thoracic Goiter

Intra-thoracic goiter was not recognized clinically until 1826, when Dubourg reported a sudden death from strangulation, which was shown at autopsy to be due to an intra-thoracic goiter. Before the days of X-ray, perhaps only the most severe cases were recognized, and the malignant ones, being of course the fatal ones, comprised about 16 per cent of the cases of intra-thoracic goiter that were really recognized.

A good many cases that are simply deep goiters, that descend into the upper straight of the thorax on deep inspiration and on expiration the lower border can be felt above the clavicle.

A partial intra-thoracic goiter is in connection with the goiter in the neck and goes down a variable distance into the thorax. The true, typical and totally intra-thoracic form is a lobe of the cervical goiter, which has descended into the thorax and is attached and suspended from the original tumor by a stalk of goitrous tissue. It carries down its own blood supply and pushes ahead of it the cervical fascia and also the intra-thoracic fascia and makes a sort of nest in which the enlarged and aberrant lobe is located, surrounded by this facial capsule. The goiters are nearly always nodular, sometimes cystic, and rarely thyro-toxic, but the frank exophthalmic goiter is rarely ever intra-thoracic.

Exophthalmic Goiter

A diffuse hyperplasia is characteristic of Graves' disease. It is manifested by the classical symptoms of tremor, tachycardia, exophthalmus and goiter. The nervous instability, loss of weight, hypersensitiveness to heat and increased metabolism are noticeable. It is most likely to make its appearance in the early thirties, but may occur in childhood. Constitutional symptoms sometimes precede the recognizable enlargement of the thyroid. It appears to reach its greatest severity at the end of the first year, later it may have remissions and exacerbations. The crisis of great intoxication with vomiting, temperature, redness and prostration may prove fatal. This crisis can be controlled



Fig. II. Toxic Adenoma. B. M. R. +23%.

most dramatically by large doses of iodine, but it is never curative.

In exophthalmic goiter the gland becomes hyperplastic; there is an increased iodine content of the blood. Among theories of its causation have been suggested sex imbalance and psychic trauma. It certainly never comes from happiness. Infections undoubtedly play a part, particularly in causing it or increasing its severity. It occurs often after acute tonsillitis, after infections like influenza or anything that increases the active principle of the gland, thyroxin. The thyroid has to handle all of the iodine in the system. There are only 25 milligrams in the entire body and when the thyroid is over active we find more iodine in the blood. The thyroid manufactures approximately one third milligrams of thyroxin daily.

What happens when a patient's general condition is so greatly improved by the temporary administration of iodine? The acini of the cells are filled with a thick colloid, which physically makes pressure upon the cellular lining of each acinus and thereby cuts down the over-production of the thyroid fluid.

Unfortunately, this does not continue, because in a few weeks iodine ceases to manufacture excess of colloid and the gland reverts to its original condition. Continued administration of iodine is harmful. It should be reserved for cases only that are being prepared for operation. Within a week or ten days the very sick, acute, toxic patient can be thus greatly improved. The basal metabolic rate can be brought down from 70 or 80 to 25 or 30, and a pulse rate from 140 to 80 or 90. Then the patient is in the best condition for operation that she can ever attain again. Continued administration deprives the surgeon of this wonderful primary effect. We have, in 1,000 cases operated on in our clinic, had a mortality of 2.6 per cent. Since the use of iodine as a preparatory treatment, we had only two deaths in the last 300 reported cases (all types).

This striking effect of iodine in exophthalmic goiter is not so well marked in toxic adenoma. A former resident at St. Thomas Hospital, Dr. W. D. Sugg, noted that in our Clinic the average decrease in exophthalmic goiter was forty points of the basal metabolic rate, whereas it was only twenty points in the toxic adenoma. To be sure, the toxic adenoma does not register as high a basal metabolic rate. The average rate in exophthalmic goiter is plus 56 per cent.

Exophthalmic goiter, compared to toxic adenoma, occurred 1.5 to 1 in our Clinic. The average age of exophthalmic was 29.8 years, and of the toxic adenomas 41.5 years.



Fig. 111. Toxic Adenoma with cardiac decomposition cured by Thyroidectomy.

In cases of toxic adenoma 22.8 years elapsed after the goiter was first noticed before toxic symptoms appeared, whereas in exophthalmic goiter the zenith of the symptoms was ten months from the beginning.

Fetal adenoma rarely become hyperfunctioning. The danger is the development of malignancy. Formerly we contented ourselves with hulling out these discrete adenomatous growths. We found however that others would develop and we would have a recurrence of the goiter, whereas a resection of a part of the apparently normal thyroid, together with the discrete adenoma would be permanently curative.

Malignancy of the Thyroid

This occurs in about 1 to 2 per cent of the cases and usually develops in the fetal adenoma. It is seen in youth as an ovoid tumor of slow growth. It is encapsulated. The acini are undeveloped; there is no colloid. They grow with age. Ninety per cent of all cancers develop from these fetal adenomata. They should be regularly removed early.

Cases that have hardness and immobility of the tumor together with hoarseness, dyspnea, resulting from fixation of the vocal cord, are due to breaking of the carcinoma through the capsule. The carcinoma that is still contained in the capsule are favorable. 137 out of 323 patients with carcinoma of the thyroid in the Mayo Clinic lived five years or longer, and 54 lived over ten years. Radical surgery and thorough post-operative irradiation are essential.

Total Thyroidectomy For Heart Disease

Blumgart and Berlin suggested in 1933 total thyroidectomy for congestive heart failure and angina pectoris.

The object to be attained is the lowering of the basal metabolic rate by total excision of the thyroid. Partial thyroidectomy apparently does not reduce the basal rate enough to favorably affect the cardiac con-

dition. It must be reduced to minus 20 per cent. It has been advised that in cases where rest in bed, digitalis and other measures failed to benefit the patient that operation would be of questionable value.

In the congestive heart failure group of 50 patients the mortality was 12 per cent, although there had been 22 consecutive cases in the latter part of the series without any deaths.

Where the heart disease is markedly progressive and not ameliorated by treatment and bed rest, not much can be promised from the operation. In angina, those cases are unsuitable who are progressively becoming worse and in a very short time are incapacitated. There is no idea of curing the underlying cause, but simply to "set the hands of the clock back."

With lowered metabolism the damaged heart is enabled to supply circulation sufficient for the increased demand and therefore compensation occurs.

Summary

1. Goiter in children, while easily controlled by iodine and requires no operation often recurs in middle life.

2. After adolescence, goiter can rarely be cured without operation.

3. Diffuse nodular adenoma, formerly called simple goiter, are prone to become toxic in 20 per cent, after an average duration of 22.8 years. They should be removed early. The mortality is practically nil. No deaths in over 400 operations in our Clinic.

4. Intra-thoracic goiter, descending into the chest, gives severe dyspnœic effects, has the same likelihood of becoming toxic, of undergoing degenerations and of developing malignancy (16 per cent). Goiters should be removed while in the neck above the clavicle, but are successfully removed from the upper strait of the thorax.

5. Toxic adenoma, occurred on an average at 41.5 years in our series. The average duration in our group was 22.8 years. It affects the heart from mild dyspnœa to breathlessness and edema. The thyro-toxic heart is restored by removal of the cause, with incredible regularity.

6. Exophthalmic goiter occurs in the early thirties and reaches the zenith of its severity at the end of the first year. The average metabolic rate is between plus 50 and plus 60 per cent. The patient is a pitiable semi-invalid until it is cured by thyroidectomy.

7. Iodine is dangerous in adults, as it is likely to stimulate a goiter into the toxic variety (1 in 5 cases).

8. Iodine should not be given for goiter except in adolescence and as a preparation for operation only. It will lower the metabolic rate, quiet the nervousness, slow the pulse and convert a bad risk into a safe one for operation at the end of one or two weeks. With iodine preparation there were only two deaths in our last 300 cases (all types). The mortality in 1,000 cases before the routine employment of iodine was 2.06.

9. Malignant goiter occurs in from 1 to 2 per cent, usually from a small ovoid fetal adenoma that grows slowly and that is not removed early, while safe and simple.

10. Total thyroidectomy to lower the metabolism to plus 20 in congestive heart failure and angina pectoris in selected cases, has been suggested, but is in the experimental stage.

CHONDROMA OF OS CALCIS AND FIBULA*

Malcom Thompson, M. D.,

Louisville

That chondroma may grow slowly, recur when only partially excised, attain a large size and still be cured is neither new nor unusual. The following case, however, so adequately presents the classical rather than the extraordinary features of this disease that it is considered worthy of reporting.

Mr. G. L., age 50, was first seen October 1, 1931 in consultation with Dr. Horace Seay. At that time he complained of pain and swelling in the left ankle. Eleven months previously he had fallen down the cellar steps striking his left foot and ankle. A few weeks thereafter he noticed a swelling upon the lateral surface of the left heel. This swelling gradually enlarged and in September there was a slight oozing of blood from the surface. The general physical examination was negative except for the local condition and the left leg just below the knee was slightly larger than the right. Upon the lateral aspect of the left heel there was a mass the size of a small orange. This mass was firm, fixed and not tender. The overlying skin was intact except for a small ulcerated area in the center. There were no signs of any inflammatory reaction. X-ray examination confirmed the clinical diagnosis of chondroma of the os calcis. Blood Wassermann was negative. October 15, at St. Mary's Hospital the tumor was removed under spinal anesthesia. The os calcis was curetted until normally appearing bone was obtained and the entire wound except the cutaneous flaps cauterized with 50 per cent

*Read before the Jefferson County Medical Society, May 20, 1935.

zinc chloride solution. The skin was closed with interrupted sutures. The microscopic diagnosis was chondroma with the following note: "We do not see evidence of malignancy but are aware that such may be absent and yet the tumor act like a malignant neoplasm. These tumors are prone to recur at the site of the original tumor and do not often metastasize. From all the evidence it is felt here by all who have seen the sections and the history that this is an ordinary chondroma and that it should not be labeled as a chondrosarcoma." A small area of the skin sloughed but this soon healed by secondary intention. Though the cutaneous covering remained intact the growth gradually returned and this time was very painful. The central portion was liquid in character but not purulent. February 22, 1932, at St. Mary's Hospital the old scar was reopened for diagnostic purposes and the cavity packed. Extensive local recurrence was present. Amputation was advised but firmly refused. Two radiologists were consulted and both advised against attempting any radiation therapy. Until June 2, he was seen at regular intervals and his wound dressed. The tumor gradually enlarged and became increasingly painful. During this time he placed himself under the care of a Christian Scientist who promised to cure him. After June 2 the wound was dressed at home by members of the family. During the summer of 1932 the left leg just below the knee began to enlarge and become painful. In November 1932 he visited one of the local cancer clinics where a diagnosis of chondrosarcoma of left ankle and head of left fibula with extension to lower end of the femur was made. An amputation of the hip joint was advised but rejected. X-ray examination of the chest and pelvis were negative. X-ray examination of the left knee revealed an osteochondroma of the head of the left fibula. He was not seen again until March 9, 1933, when he was visited at his home. During this interval he had been taking large doses of opiate. Both growths had greatly enlarged. He had lost considerable weight and was running fever daily. The growth of the ankle was badly infected with a foul odor. In June he agreed to submit to an amputation and after a consultation with Dr. Seay and Dr. Hagan it was agreed upon. The purpose of the amputation was to relieve him of his pain and ulcerating mass as none of us hoped to effect a cure. June 26th he was admitted to the Baptist Hospital at which time his temperature was 100° F., pulse 120 to 130, hemoglobin 45 per cent, red cells 3 1-2 million, and white cells 12,850. The urine was negative. On the 26th he was given a transfusion of 450 c. c. of whole blood and on the 28th the leg was amputated by the transfixion method through the lower third of the left femur. The flaps were united loosely with through and through interrupted dermal sutures and without insertion of drainage material. The postoperative convalescence was uneventful. An interesting feature is that he required no morphine after the 4th postoperative day though he had been using 1 grain or more each day for several months.

The specimen was carefully studied by Dr. A. J. Miller who made a diagnosis of chondrosarcoma. At the operation the proximal portion of the femur was inspected and no signs of tumor seen. The medullary portion of the specimen however contained tumor. At the time we feared the tumor had been cut through but the subsequent history has led us to believe that the site of amputation was immediately above the tumor. The following comment of Dr. Miller's is of interest: "The tumor evidently began in some hyalin cartilage of the foot extending upward. The mass in the marrow cavity of the femur can either be a metastasis or extension, more probably the former. In view of this finding, the tumor is classified as malignant, though the structure is not very suggestive of malignancy. The relationship between malignancy and structure in cartilage tumors is very irregular.

Five months later an artificial limb was fitted since which time he has been able to walk anywhere he wishes. He has also gained in weight and now weighs 195 pounds. Except for a few weeks after operation there has been no pain in the stump. X-ray examination of the stump March 1, 1935, showed no evidences of recurrence.

DISCUSSION

Orville Miller: There are several interesting points one in particular being that we have a chondroma appearing in a patient who has been operated on for club-foot. It leads us to wonder whether or not this operation for club-foot may have had something to do with the development of the chondroma. Murk Jansen, who died recently, was considered an authority on the development of bone and on the reason why bone did not develop properly. The theory that he and Virchow taught, and one to which I think he held steadfastly, was that the reason for the development of chondromata and such tumors was because of the disassociation of retardation of differentiation of the cells them-

selves, as is illustrated in case of rickets, where we have certain groups of cartilage cells overtaken by the bony tissue. And while the patients who have rickets are seldom ever known to develop chondroma, still, later on, because of the fact that these cartilage cells are isolated, they may develop into tumor masses that will be found around the epiphysis or the end of the long bones and they may grow to a very large size. We wonder whether or not the operation for clubfoot may have displaced some cartilage cells, which, as the patient recovered from the operation, were overtaken by the bone. We wonder if that may have been the reason for the development of the chondroma at the point where we so seldom see one.

These tumors have a very marked tendency to recur after operation, if every bit of the tumor mass is not removed and the bed thoroughly swabbed with some such material as pure carbolic acid or other equally destructive agent. They rarely undergo degeneration as this one has done. Jansen, in an article published in Sir Robert Jones' Birthday Volume in 1929, makes that statement and further than that he reports two cases, I believe, in a long list of chondromata which he had treated, in which not only had the patient withstood the traumatism of operation without developing malignancy, but also after recovery from removal of the chondroma, along with several inches of the shaft of bone, a bone graft was later implanted. And later still, the patient suffered traumatism of such severity as to fracture the graft. Recovery from these injuries, operative and traumatic, took place without the development of malignancy. This occurred in several instances, but he reported two cases in which there was development of malignancy after the patient had a chondroma. This, he considered unusual.

Harry Goldberg: This case of chondroma has been very instructive to me. The interesting feature is that metastasis occurred at the head of the fibula, where these chondromata about the knee are primarily seen.

Chondroma, as the name implies, is a tumor of cartilage cells, usually of the hyaline type, interspersed with a good deal of fibrous tissue. These tumors, as a rule, are lobulated and well-encapsulated.

The prognosis of these cases should be guarded and the patient kept under observation for a long time, as recurrences are prone to occur with malignant degeneration. If recurrence should occur, in my opinion, an amputation or resection should be done.

E. S. Allen: The fact that metastasis had taken place is rather positive evidence that this tumor was malignant.

The histological structure of a benign tumor practically prevents metastasis. A benign tumor has such an abundance of stroma or connective tissue, which holds the cells in place. The blood vessels of a benign tumor are normal with their three coats. A malignant tumor has little or no stroma, being almost entirely a cellular growth, with very thin blood vessel walls, consisting only of one wall made up of endothelial cells. Tumor cells break off easily and get into the circulation. The embryonic cell is more or less parasitic in nature, secreting some type of zymotic ferment which disintegrates the contiguous normal cells, thereby rendering metastasis easier.

As to the origin of this tumor, I doubt that we have had as satisfactory explanation, theoretically as Cohnheim's theory.

As the blastodermic layer divides into the mesodermic-entodermic and exodermic layers and begins to specialize into organ and anatomical structures, an over abundance of building material is liable to occur and the excess of cells is cast aside and lies dormant, disconnected from its physiological governmental control, loses its specialized function and retaining only the property of cell division, when irritated and stimulated later, all of its energy is utilized in karyokinesis. Each daughter cell dividing before reaching maturity, until structurely it has reverted back to an embryonic cell, which we regard, microscopically as malignant.

It is probable that the injury in this case might have dislocated some cells which began to grow manifesting atavistic tendencies, and taking on the loose histological structure of malignancy, metastasized as the secondary growth was on the opposite side of the leg above.

I recall a case of sarcoma in popliteal space in which an amputation was done just below the hip, 14 years after he fell on the ice, bruising his stump. In 6 months he had a generalized sarcomatosis. More than 100 tumors over the body. I had the pleasure of witnessing the operation and enjoying the smooth easy technic of the transfixing amputation.

Walter Hume: I arise to make a remark or two more for emphasis than anything else.

First, I would emphasize the apparently strong hereditary tendency in such cases. Frequently such cases will be found in more than one member of a family. Then, they are much more apt to occur in the hands and wrists—in the upper than the lower extremities. Further, we have been taught to be afraid of these tumors because of possible malignant changes. I understood Dr. Miller in his discussion, to say that malignant changes rarely take place. We have understood that malignant changes are very apt to be shown and on that account have

received not only complete excision but post operative X-ray treatments.

M. Casper: I did not think anybody was doing transfixion operations any more. That is the way we were taught to do them in the early days, but I do not think a transfixion operation gives you nearly as good a stump for fitting an artificial limb as some of the other sections. Undoubtedly you can do the operation a lot quicker, but that does not make so much difference now as spinal anesthesia lasts forty minutes anyway.

Malcom Thompson, (In closing): Mr. President, I thank the gentlemen for the discussion. I am sorry to say we did not weigh the tumor at the time of the operation. As you know, many very large chondromata have been reported. A tumor of the scapula that weighed 41 pounds was reported several years ago. A conservative estimate of the weight of this tumor with the leg would be 35 pounds.

THE HEART*

E. C. McGehee, M. D.,
Ashland

A hollow muscular organ, divided into the right and left, by the septum and further divided by, on the right the tricuspid valve and on the left by the mitral valve. The auricle and the ventricle of either side forming a separate pump.

The position of the organ is well known to all of you. However its suspension in the chest, by a fibrous sheath which is continuous with and part of the pericardium extends upward and becomes a part of the deep cervical fascia and two other bands from the pericardial sack extend forward to form the superior and inferior sterno-pericardial ligaments and are attached to the posterior surface of the sternum.

The function and action need not be mentioned except to note that the vagus, when stimulated slows and the phrenic, when stimulated speeds up the action. Within the heart muscle itself, we find that it has its own nervous system, what was formerly well know as the bundle of His. The origin of this bundle is in the pace setter or sinus node located in the right auricle near the junction of the superior and inferior vena cava, near the auricular-ventricular junction in the auricle there is another node, that of TAWARA and this in its turn carries the impulse down through the bundle in the intra-ventricular septum to the level of the anterior papilla muscle of the tricuspid valve where the bundle divides into the right and left branches which supply the respective sides of the heart, these branches spread throughout the inner surface of the heart and end in Purkinge's cells or system. This system complete is not composed of true nerve fibers but is not identical with the other parts of the heart muscle.

The coronary circulation is derived from the aorta, usually from the respective right and left valsalvian sinuses but may sometimes be given off from the aorta some distance above the sinuses and the arteries so given off supply their respective sides of the heart. The muscle branches are all given off at right angles to the main artery. There is free anastomosis between the branches of each artery with each other and too between the branches of the right and left coronaries. The arteries here receive their circulation as do the other arteries of the body, from the vaso-vasorum which supplies nutriment to all of the vessel wall except the intima which receives its nourishment from the circulating blood within its lumen. The veins empty in one large vessel into the right auricle but there are many small veins which empty separately into the cavity offering the nearest exit.

Throughout the life of an individual the heart is subject to many changes of pressure which are often sudden but normally the blood supply and reserve strength is sufficient to take care of any emergency.

Each decade of life brings about its changes in the coronary muscle but cannot well be called pathologic until about the 4th decade when there is some thickening in the wall of the vessel due to the interference of the blood supply through the vasa-vasorum; this lessened nutrition to the vessel wall causes at first the formation of scar tissue in the wall, this thickens and in that way causes the intima to bulge inward thereby lessening the size of the lumen. As time does its work the fibrotic area is replaced by deposits of calcium, called sclerosis, or by others atherosis. By the time that this stage is reached the intima becomes roughened and makes a nidus for the formation of thromboses. At times the intima breaks at one of these points and is dissected loose from the wall by the circulating blood in the lumen and in this way the lumen may be closed. As age advances the coronary vessels become more and more tortuous and less flexible which also interferes with the circulation.

Coronary occlusion may be caused by the methods shown above and in addition by infarction from vegetation from the inflamed valves and parts of mural thrombi which have been free and are floating in the circulation, misplacement of coronary opening

*Read before the Green County Medical Society.

and aortitis, abscesses, also by spasm of the artery itself which may completely shut off the blood supply long enough to produce death, stenocardia.

The symptoms of occlusion vary considerably. The patient is stricken usually with the most severe pain in the coronary region and substernal area: it too may radiate to either arm or even down to the region of the appendix. Severe pain in the region of the gall bladder is very common. Occasionally there is no pain. There is always shortness of breath, a terrible fear of death, a pallor which has the appearance of impending dissolution, the shock is severe, heart is slowed, cold, clammy sweating, the patient may be quiet as one expecting the hand of the grim reaper or he may be writhing as one in extreme torture. If he survives this stage he is destined to show a rise in the leucocyte count and a moderate rise of temperature, sometimes reaching as high as 103 degrees F. About the time this occurs pericardial friction may be heard and from this some idea of the size of the area involved may be made out. By the time the friction is heard there is formed over the occluded area on the inside of the heart a mural thrombosis which is nature's effort to strengthen the weakened area. The infarcted area if seen at once is pale and little change is seen in the muscle, but if the patient survives, in a very short time the area becomes softened and the edges are reddened. The involved muscle is being broken down and the beginning of the formation of scar tissue ensues. At this phase the heart may develop an aneurism with or without rupturing. Should aneurism not occur the area becomes cicatrix and the patient may go on for months or even years without further severe heart symptoms. The B. P. returns to the normal very slowly after occlusion: but it will return. If the pressure had been unusually high before the attack in from forty to sixty days it will be found climbing back toward the original level unless something is done to keep it low, the latter not so easily done in every case. The early establishment of a collateral circulation will prevent many of the symptoms from occurring.

Mural thrombosis will occur in any case in which the circulation through the heart is unduly slowed or the regularity of its action interfered with. Under treatment the muscle may resume its tone and it is at this time that there is danger of infarction as in a case, a doctor's wife, which I saw some time ago. The diagnosis was made and the possibility of an infarction and sudden death indicated. Three days later it occurred.

Dolor cardis or heart pain occurs with pericarditis and endocarditis because there are nerves of sensation in both but none in the muscle proper. This condition may account for much of the pain noted in heart diseases. Angina pectoris comes in for its share of credit for producing pain. With its attack the B. P. may not be lowered, the pulse rate is slowed, the pain, oppressive in type, radiates to the left arm usually and often to the forearm. I have seen a few cases in which the pain radiated also to the right arm but did not reach the forearm. The pain may be felt in the neck or even in the gall bladder region. The dyspnœa is marked in these cases and they appear to be waiting in torture for dissolution.

Infections involving the heart include many types of bacteria, and their spirillum. Bacteria usually attack the peri-and endocardium or produce abscesses of varying extent in the muscle. Syphilis may attack any part of the heart producing disabling lesions, Gummata possibly the most dangerous. Aortitis, if it involves the sinuses of Valsalva, may in that way interfere with the circulation, too, if the coronary stoma open above the sinuses as is expected normally the disease may occlude the vessels at the aortic wall at an early stage of the aortitis.

I know that I cannot cover all of the conditions to which the human heart is liable but I hope that in this I may be able to help some one in recognizing acute cardiac accidents which are so often called acute indigestion.

Weil-Felix Reaction in Rocky Mountain Spotted Fever.—Davis shows that agglutinins of Proteus OX_2, as well as for OX_{19}, appear in significant titer in the serum of rabbits following injection with the passage viruses of Rocky Mountain spotted fever or Sao Paulo typhus. Although these agglutinins are perhaps of the group type, they cannot be so considered according to Felix's criteria. Following similar injections with passage virus of boutonneuse fever, Weil-Felix tests with the available Proteus X strains are essentially negative. The Weil-Felix reaction with rabbit serums confirms former observations as to the relationships of spotted fever, Sao Paulo typhus and boltonneuse fever. The presence of agglutinins of X_2 type in human and rabbit spotted fever serums and their absence in human and rabbit endemic typhus (United States) serums suggest that the Weil-Felix reaction may aid in the differential diagnosis, especially in regions where both diseases are endemic.

ORIGINAL ARTICLES

A PREVIEW OF ECONOMIC SECURITY IN KENTUCKY*

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The Committee on Economic Security appointed by the President in the early Summer of 1934 recommended that the principle of compulsory Sickness Insurance be made a part of the Federal Program for Economic Security. This recommendation thoroughly aroused the medical profession and, probably, was one of the factors which crystallized the thought of the President in his message to the Congress on January 17, 1935, recommending legislation on Economic Security when he said, "I am not at this time recommending the adoption of so-called 'health insurance'."

The profession with a sigh of "economic security," believing the danger of regimentation was over, turned to its daily dozen of delivering babies, of visiting the sick, of attending to the other varied chores of a busy physician's life. It was 10 o'clock and all was well. Not quite well, perhaps, but well enough. The profession had grown complaisant about Workmen's Compensation Acts; it had disdained the gesture hospitals were making toward practicing medicine; it had nodded approval of Contract Practice and watched it develop with indifference; it had scoffed at the threatening popularity of group clinic activity; it had protested, but none too vigorously, against federal inroads on private practice through such agencies as the Veterans' Bureau; but, withal, it was 10 o'clock and all was well.

During the past two decades the profession had been sullenly critical of the development of infant welfare activity, of school health care, of the advent of public health services deploying in the field of curative medicine. Only when the stress of economic depression became manifest did the profession awaken to some realization of how far public health agencies had actually gone beyond a generally accepted, proper scope of activity. Less generally recognized by the profession, there had been, none the less, developing out of the maladjustment of economic unrest a puissant though revolutionary change, impelling coherent and vocal organizations to maintain lobbies in the National Capitol to work for the enactment of legislation tending to make the state more and more the legitimate and responsible carrier of all group burdens. This means what Newton D. Baker calls in an article in the Atlantic Monthly, December, 1934, "The Decay of Self-Reliance." This change has resulted in the formation of groups, each seeking legislation furnishing group relief. Veterans, farmers, bankers, home owners—all have lobbies in behalf of their interests. The Government has preemptied the shoes of bankers and supplies funds and credit for over-built and poorly-managed industry; it has become the benevolent Uncle building roads for states, water and power plants for cities; the godfather of farmers, paying them for corn and cotton they did not raise. Law after law, act after act, followed each other in hot haste labeled "rush" in the laudable effort to stay the impending crisis. They may have had a beneficial influence; it is hoped they had. And if they did, one can forgive their defiance of precedent or their violation of constitutional safeguards.

But the close student of passing events must have sensed the accumulating evidences of a dwindling of self-reliance in our people individually and collectively, and more and more willingness to forego the adventure of striving; content to surrender their pioneer spirit and willing to accept a secure equality from a government doing the planning and providing. Small wonder that Baker, sturdy individualist that he is, should have closed his challenge with the assertion that "For my part, I am not able to imagine what equalitarianism has to substitute for it (individualism), and I cannot help praying that life may continue an adventure full of charm and novelty, with wide spiritual spaces for the minds and hearts of the valiant, and room beyond all horizons for imagination and inspiration."

When the distress of depression, the fury of financial storm, the terror of economic uncertainty, agitate a people, there come to all types of men fears and dangerous expediences and erstwhile leaders are spewed to the surface from the bogs of anonymity. "There comes a time when any plausible lunacy may have the momentary ecstasy to dress itself in type. It may arise from sincerity, but those who produce it fairly sweat with the zeal of conviction, the spirit of revelation or the excitement of discovery."

In such times it is not unexpected that many immature schemes and unrelated, impractical plans should occupy the attention of the public for a period. Then, as in normal times, the public purse is like holy water; those who have access to it help them-

*Read before the Muldraugh Hill Medical Society, August 8, 1935.

selves. Wanting is a sense of distinction between what is economic and what is political.

One of the schemes that has engaged the attention of politicians and social planners is redistribution of income. To what legitimate or illegitimate extents this trend may carry cannot be measured by any criteria of the past, but the most recent pronouncement came but a week ago from the White House in what Will Rogers, humorist, philosopher that he is, calls a "Soak the Rich" program of legislation.

Controlling the expenditure and supplementing the insufficiency of low incomes by public and private philanthropy has proved inadequate to satisfy the restless and impatient groups enthusing over the birth of a male child. Funds must be found to supplement those demonstrated to be inadequate and payroll taxes have been jockeyed into a stellar role.

Ollie M. James says of the Act that "the practical purpose of the legislation is to patch the gaps in the Nation's purchasing power. . . . From the standpoint of sheer complexity the Social Security Bill outdoes any other measure undertaken at the present session of Congress."

The profession, as I said, thought all danger was over and became absorbed in its work. But I should like to call your attention to a new cloud on the medical horizon. In reality it is but an old nebula galvanized into astonishing importance and carrying, perhaps, a new threat to the disciples of Esculapius. In the President's Address of June 8, 1934, the main objectives of his program for Economic Security were listed as (1) Unemployment Compensation, (2) Old Age Pensions, (3) Federal aid to dependent children and to mothers, (4) Additional federal aid to state and public health agencies.

These objectives were embodied in the Wagner Bill (S. 1130) in the Senate and the Doughton Bill (H. R. 4120) and the Lewis Bill (H. R. 4142) and started on their careers. Since the Doughton Bill went further afield in the search for Economic Security than the scope outlined in the President's message, only the Wagner and the Lewis Bills were given Presidential blessing. Both bills provide that the term "The Economic Security Act" shall apply when and if enacted into law. Each has been passed by the legislative chamber where it was introduced in substantially the form introduced and the two bills are now in the hands of a Conference Committee for purposes of harmonizing the differences. The chief obstacle to be hurdled at last reports is the recognition of existing insurance plans set up by industrial concerns.

The exact form of the Compromise Act when finally approved cannot be stated, but it appears that it can be said with accuracy that the fundamentals will remain unchanged. These fundamentals embrace three fields of social interest—charity, economics and health.

Since many physicians are employees or employers under the terms of the Economic Security Act and are subjected to some of the taxes and benefits proposed, the profession is interested in all of its provisions. Your attention, however, is now invited to only two sections of the Act; these have a specifically medical aspect. Section V proposes a state system of maternal and child health, federally controlled and subsidized. It is to be operated by the Children's Bureau, an activity of the Department of Labor. There are two objectives in this section, (1) aid to dependent children, (2) promotion of maternal and child welfare work. Our interest, today, concerns only the second objective, which must be amplified to include the care of crippled children.

The Act provides for a federal subsidy for maternal and child health work by an appropriation of 4 million dollars annually. Five per cent of this is allotted to administration; the remaining ninety-five per cent is to be allocated for "furthering and strengthening state and local health services to mothers and children, extending maternity nursing services in counties predominately rural and conducting special demonstration and research in maternal care and other aspects of maternal and child health service." The allotments referred to are to by made by the Secretary of Labor; the basis for the allotment rests on the findings of the Children's Bureau, which will also supervise the state work.

Each state determines if it desires to cooperate and participate. This determination however, is not left to the judgment of the Governor and the State Legislature, as was provided under the Shepard-Towner Act, but the State agencies of Health, in Kentucky the State Board of Health, will submit to the Children's Bureau plans and estimates as a basis of cooperation. The Act provides that the State is expected to expend a sum equal to the amount it spent for similar purposes at the time the Act becomes a law. The plan referred to must make provision for a state administrative activity and co-

operation with medical, nursing and welfare groups. No state will participate in the federal subsidy provided for by the Act unless the Chief of the Children's Bureau approves the plan submitted. If she approves the plan, the state will receive twenty thousand dollars, which sum must be matched by state's funds except when in the judgment of the Secretary of Labor a state may be in "severe economic distress." In addition, one million dollars is to be divided among the states cooperating on a basis of its number of live births to the total number in the United States. The remainder of the four million dollars is to be spent on special demonstrations and so-called research in maternal care in rural communities.

The remainder of Section V which concerns the medical profession particularly has to do with subsidies for the care of crippled children. The Act appropriates three millions of dollars annually to promote the care of crippled children. The provision that 5 per cent of this amount be used for administrative purposes applies and that 95 per cent of this amount is to be allotted to the several states cooperating under the provisions of this Act. And here again the Secretary of Labor, on the recommendation of the Children's Bureau, allocates the fund. Funds are provided to the several states for purposes of locating crippled children, providing facilities for diagnosis and care, for hospitalization and after care.

The principles on which the conception of Section V rests embrace the thought that Mothers' Aid is not primarily aid to mothers, but rather defense measures for fatherless children. Some sort of Mothers' pension laws have been enacted by 45 states and such legislation has been in operation for 20 years or more. The cost of these various activities per year is estimated at 37 millions; 6 millions of this is paid by state governments and the balance from local resources. 23 states have no funds appropriated for such care.

The principles embrace also the proposal that the Federal government assume leadership in the child-mother health program. Such leadership contemplates (a) education of parents and professional groups in maternal and child welfare, supervision of health of expectant mothers, infants, preschool and school children, children leaving school for work and (b) provision for transportation, hospitalization and convalescent care for crippled children.

No concept appears to have been entertained concerning the financial status of crippled children. A matched fund of twenty thousand dollars goes to each state and there is no free fund. The program is not one of disease prevention or of public health; it is an undisguised entrance into the practice of medicine by the Federal and State governments. That a crippled child may be the offspring of wealthy parents is not of importance. Even the term "crippled" is subject to an elastic interpretation and may include those handicapped by diabetes, tuberculosis, kidney disease, defects of eyes and ears, etc.

Under Section VI subsidies for general health purposes are provided. It is to this section particularly that your attention is invited. Ten millions of dollars are to be appropriated annually for this purpose. This fund is to be distributed as federal subsidies to the several states under the supervision of the United States Public Health Service, with general direction by the Secretary of the treasury. Eight million dollars of this annual appropriation is to be distributed to the several states on the basis of their respective needs for such assistance. The purposes of the appropriation are stated to be the developing of state health services, including the training of personnel for state and local health work and for the purpose of assisting county and other political subdivisions of the state in maintaining adequate health programs. The term local health work is interpreted to mean city, county and district health activities. Four hundred thousand dollars of this annual appropriation is to be distributed equally among the 51 states and territories of the United States. The amount so distributed will be seven thousand, eight hundred and forty-three dollars for each jurisdiction.

This money is to be considered an outright gift and no provision is made for matching by state funds. Four million dollars of the annual appropriation is to be given to the states on a per capita basis and this must be matched by state funds. One-half of this is to be matched dollar for dollar from existing appropriations for state health work; the other half is to be allocated to the state and matched dollar for dollar with new appropriations, except for the provision in the case of a state that appropriates large sums for public health work; it may receive its allotment by matching dollar for dollar from existing funds. One million, two hundred thousand dollars of this appropriation is to be allotted to the states for the purpose of equalizing the burden of public health work in accordance with the determined conditions

and needs of the various states and territories as expressed by the state or territory's deviations from the median per capita income of the other state and territory jurisdictions. One million, two hundred thousand dollars of the appropriation is allotted to the states and territories on the basis of certain provincial health problems, as malaria, hookworm, etc. This amount is to be matched by state and local funds dollar for dollar. One million, two hundred thousand dollars goes to the training and the provision of a reserve personnel of health officials. This training fund is to be administered by the United States Public Health Service. It gives authority to strengthen existing training centers and to establish new ones for the purpose of training personnel to carry out the purposes of the Act in both state and local health jurisdictions. Provision is made for advisory committees to the Surgeon General in public health service, as well as to the United States Children's Bureau.

TABLE I
Public Health Service

No. Counties in U. S.	3,000
No. full-time Health offices	528
Avg. Per Capita Expend.	
(77 cities) 1931	$ 0.71
Same for 1934	0.58
Amt. spent by U.S.P.H.S.	5,000,000.00
Amt. spent per capita	0.04
Amt. recom. Econ. Sec. Act	10,000,000.00
Amt. recom. per capita	0.08

TABLE 2
The Costs of Economic Security
Federal

Object	1936	Each Year Thereafter
Old Age Pensions	$50,000,000	$125,000,000
Unemployment Insurance	4,900,000	49,000,000
Mother's Aid	25,000,000	25,000,000
Maternal and Child Health	4,000,000	4,000,000
Crippled Children	3,000,000	3,000,000
Child Welfare	1,500,000	1,500,000
Public Health	10,000,000	10,000,000
TOTALS	98,400,000	217,500,000

In anticipation of the expected enactment of the Bill into a law, conference has already been had by the Surgeon General of the United States Public Health Service and by the Chief of the Children's Bureau. These conferences were held in Washington, D. C. An invitation was extended to the American Medical Association to send representatives to this conference, and such representatives attended. This conference set up four classes of personnel—medical, nursing, engineering and technical and sanitary.

It is interesting to note that while the Secretary of the Treasury is authorized to make rules and regulations to govern allotments made to states, the Act sets up no definite rules for the distribution of the funds. It merely says in general terms that the allotments shall be made "in amounts determined on the basis of the need for each state for such assistance." This preserves the theory of bureaucracy; it lays the foundations for a political bias; it makes possible the influence of this enormous sum to mould local thought into a conformity with federal ideas; when the system is transplanted to the state it may serve the same ends.

It is stated that at a conference with the Public Health Service, and also that with the Children's Bureau, that officials expressed a desire and a determination to work in cooperation with the medical profession in carrying out the provisions of the Economic Security Act. The Act provides for advisory committees to the Surgeon General and the Chief of the Children's Bureau and announcement has been made of an intention to invite representatives of the A. M. A. to serve on these committees. I believe that these expressions may be taken at their face value now, but that an inevitable divergence of aims and objects will obtain I likewise believe. That the Act will become a law in essentially the form as above outlined is also believed.

Kentucky and The Security Act

Since the Act provides for state voluntary participation, it may be expected that Kentucky will make an effort to so participate. Already there has been appointed by the Governor a committee of seventeen members for the purpose of studying Kentucky's needs, and the results of that study are to be presented to the next state legislature convening at Frankfort in January, 1936, with the object of having them embodied into a law providing for participation. The Secretary of the State Board of Health is chairman of that committee. Unless membership held by the Secretary of the State Board of Health on that committee be considered representation, the medical profession of the state of Kentucky is not represented. The failure to have the profession represented may be interpreted as a thought that the medical profession is not interested. It may be interpreted as an indication of an indifference to the profession's interest. That

the Kentucky State Medical Association has not been invited to sit in the councils to be held for the purpose of creating an extensive public health machinery for the State should not go unnoticed nor unchallenged. It should know that competition in the private practice of curative medicine is not to obtain. It should determine, not help to determine, the limits to which preventive medicine may be carried on by public health officials. It should define, not help define, the basic activities of public health service. Then it should cooperate, collectively and individually, in an effort to make public health service of real value to our citizens.

One familiar with the activity and influence of the State Board of Health in Kentucky needs no prophetic vision to prepare him for the effect of a multiplication of activity and strengthening of influence on the councils of the profession of the State, the result of financial galvanization.

Listen to the Kentucky State Commissioner of Health's often repeated assertion that:

> "From the very outset responsibility for administration of public health in Kentucky was placed by statute squarely upon the shoulders of the medical profession of the state. That policy has been continuously and persistently pursued ever since. Results have conclusively demonstrated alike the wisdom of the policy and the faithfulness of the medical profession to the charge so laid upon it."

And having listened, one asks, is the profession now witnessing that responsibility being placed on other shoulders?

Again quoting the Kentucky Commissioner of Health, one is reminded that

> "Kentucky claims the distinction of originating the idea of administering public health in rural communities through local full-time health departments. with the County as a unit, operating under the supervision of a central authority and carrying specially trained personnels devoting all their time to the job. In Kentucky, too, this idea was first given practical application. The first full-time County health unit in America was organized in Jefferson County in 1908."

There are about 70 so-called full-time county health units now functioning in Kentucky, all financed on a cooperative basis. That is, all receive state aid, supplemented by local funds. Six are beneficiaries of the Rockefeller Foundation.

The Bureau of County Health Work of the State Board of Health audits payrolls and supervises expenditures in all these counties except Jefferson. It also names the personnel in the last analysis, though there is a set-up in each county under the law called a County Board of Health. Theoretically, this County Board of Health determines the policies, the administrative procedure, professional relations and staff personnel.

The effect of the application of the Economic Security Act to Kentucky from the taxpayers angle is of some moment. His present plight may be sensed from Table 3.

TABLE 3

Under the budget of the State for this biennium the following total sums have been appropriated from the general expenditures fund into which all taxes are paid excepting the gasoline tax and the motor vehicle license, which are specifically allocated by the law levying tax for highway construction.

1. Common Schools	$8,770,000.00
4 Teachers Colleges	995,600.00
University of Kentucky	1,074,100.00
2. Relief and Free Text Books	3,000,000.00
3. State Asylums, Penal Institutions	1,575,000.00
4. Care of Blind, Crippled. Lunatics, Deaf, Idiots, Incurables, and Orphan Children	524,900.00
5. Interest Irredeemable State Bonds	138,938.16
Int. & Retirement of Warrants	1,600,000.00
6. Courts, County, Circuit, including Jury expense, salaries to Commonwealth Attorneys and Circuit Judges and fees to County and Circuit Court clerks	1,507,300.00
7. Counties: Salaries to officers and refund of County's truck license	1,305,800.00
8. Department of Health, County Health units, Tuberculosis Sanitariums and all departments for Doctors, Dentists, Chiropractors and allied professions	610,180.00
9. Legislative Cost	170,000.00
10. Confederate Pension and Home	258,500.00
Sub Total	22,500,318.00
11. Maintenance of Public Property, Salaries and expenses of all officers and employes of State, not including Highway Department	1,206,794.00
12. Mammoth Cave	250,000.00
Total	23,957,112.16

During the twelve months from July 1, 1934 to July 1, 1935, Kentucky collected about $39,000,000.00. This is a daily per capita tax of four cents. Indiana collects a daily per capita tax of 3.2 cents, New Hampshire 1.3 cents, Tennessee 3.3 cents, Colorado 1.3 cents. The average for the nation is 4.2 cents in 1930. Gasoline tax equals 7.5 cents daily.

Just how much the Economic Security Act will cost the Kentucky taxpayers can only be roughly approximated now, since some of the provisions of the federal act set up a rate of cost that increases yearly to certain limits. The payroll taxes may increase to 9 per cent in the next twelve years. Again, certain other sections of the Act provide for a determination by the state of the amount to be expended. An example of this latter is the Old Age Pension. The Federal Government agrees to match the State fund up to thirty dollars. No estimate can be made as to the cost of Mothers' Aid, since the present state legislation is permissive only and is now available only in Jefferson County. Table 4, however, gives an estimate of the cost to the taxpayer close enough to trouble him.

TABLE 4
The Costs of Economic Security
Kentucky

Objects	Amount	
	Federal	State
Old Age Pensions	$1,055,000	$1,055,000 (estimated)
Unemployment Insurance	34,800	7,000,000 (estimated)
Maternal and Child Health	67,500	67,500
Crippled Children	58,800	58,800
Child Welfare	53,500	No matching
Public Health	170,000	170,000
Pensions for Blind	63,600	63,600
TOTAL	1,566,200	8,414,900

MEDICAL ECONOMICS AND PUBLIC HEALTH

Recently I read an article in a medical publication with the alluring title, "Don't Shoot The Public Health Officer." Such a title is an admission of what is no secret among medical men that there has been hostility in some places between private and public health physicians. Fundamentally, this schism between the practicing physician and the public health officer had its origin in the difference in the perspective of the two. Physicians are interested chiefly in the individual, while the public health officer is, or should be, concerned with the community as a whole. Another reason for this antagonism is found in the wide difference between what is considered maximum and minimum limits of activity of public health work. If the two groups could agree amicably upon what is necessary and proper activity of the health service, much of the antagonism and friction would be at once eliminated. By proper coordination and correlation of interests and activities the Health Department may become the ethical press agent for the entire medical profession, for through its properly directed effort in health matters the public would necessarily become more health conscious and in consequence would, in turn, seek the practicing physician more readily as well as more frequently. Many physicians have the selfish viewpoint that public health work lessens their own professional activity. If such a viewpoint be analyzed, it should readily become discernible that when individuals who formerly died in early youth from such diseases as typhoid fever, diphtheria and tuberculosis are now permitted to survive to middle or old age, they will in turn become the victims of many chronic organic diseases which in the end require long periods of therapeutic care by the practicing physician, so that while he may lose in one respect from activities and progress of preventive medicine, he eventually gains in another.

Could we agree upon an average necessary activity of public health service? Well, that might be difficult, but I do think we might agree upon minimum activity, or that public health work should include certain functions which are in the last analysis the province of government. If I were asked to set up a minimum range of activities for public health service, I should say that they should include the following:

1. Control of communicable diseases.
2. Sanitation of environment.
3. Collection of vital statistics and use of its data.
4. Public Health education.

These, I should say, constitute the four basic activities as a minimum responsibility of a health department. Their claim to selection is not likely to be contested. In some communities a fifth major essential would be added, viz., the care of the indigent sick.

Under the heading of the control of communicable diseases it is the function of the health department to determine the existence of infectious or communicable diseases in a given community. Such activity must rest primarily upon the reports made to the health office by practicing physicians as to his diagnosis of communicable diseases. To that extent, then, the prompt reporting of the existence of such conditions to the health

office becomes an important part of the attending physician's function and to that extent he becomes a part of the public health service. This phase of public health activity might be in suitable cases extended into the private practitioners activity, as for example, when some parents object to having their child's illness diagnosed as scarlet fever with the consequent placarding, the physician may relieve himself of the responsibility and the resulting incurring of ill will on the part of the patient by quietly asking the health officer to see the case and make a diagnosis. In such a case the health officer can order placarding and thus relieve the attending physician of resentment that might otherwise arise.

Again, the physician has, as a consequence of his license to practice medicine, had given him no police power; he has no authority to quarantine, to segregate nor to isolate individuals who may be suffering from transmissible diseases. This becomes a governmental function of the public health department, which properly should take charge of the enforcement or isolation or quarantine, as the case requires. It is also the function of the public health service to carry out any other general effective methods or measures which would tend to limit the spread of a disease threatening to assume epidemic proportions.

The second basic activity, namely, sanitation of environment, embraces the insurance of a pure food and a pure water supply. The practicing physician cannot meet a freight train to examine a carload of fish to see if it is wholesome. He has neither the facilities nor the time to make the bacteriological and other studies of the water supply at frequent intervals. These are properly functions of the public health service; they should be financed out of the common fund because the public as a whole benefits by virtue of the exercise of such provisions in the way of disease prevention, both to themselves as taxpayers and as well to the indigent, because when the indigent becomes ill it adds an accompanying burden on the taxpaying group to care for them.

The abatement of health hazards, the control of rodents, the sanitation of public buildings, the disposal of sewage and waste, the assurance of a pure milk supply, all are measures which are essentially preventive in their nature and which properly belong to the health service and which cannot in their nature well be taken over by the practicing physician. So there should be no quarrel on this second basis of activity in public health service.

Public health education, likewise, as a basic activity scarcely permits of argument. The job of educating the public along the lines of the individual and mass health, can be better carried out by the public health officer than by the practicing physician. In the first place, to a degree he speaks with some authority, since he has police power behind his office. In the second place, he can speak without fear of being charged with being impecunious, because he is a salaried man and when he advises the parents of children that they have their children immunized against a given disease, he cannot be charged with the ulterior motive of increasing his income. Again, to the more analytical mind, the pronouncement of the public health service on communicable diseases carries a bit more weight than does that of the individual physician because in the nature of things it appears that he is speaking from the viewpoint of the masses and from the standpoint of collective information.

The fourth basic activity, the collection of vital statistics and use of its data can best be done by some governmental agency. It can make epidemiological studies, analyze the results and make them available for the furtherance of information as to how transmissible diseases behave and how they may be controlled.

Again, in the accumulation of data concerning transmissible diseases it is found that the practicing physician is an important cog in the public health machinery, for without his cooperation in faithfully and promptly reporting his observations an essential point in the public health service would be almost without definite information. Only a public health service can engage satisfactorily and helpfully in epidemiological investigations. A private physician, as an illustration, called upon to treat one of the victims of the amebic dysentery outbreak in Chicago in 1933, would not have been able to determine that the outbreak was the result of water-borne infection caused by contamination of the water supply in two of the local hotels. Very little cooperation, I fancy, would have been given by the hotel authorities to a physician who had been called to treat one of the victims, but public health officials can make such inquiry and if the owners of hostelries prove recalcitrant, there are always means whereby they can be convinced that cooperation is essential.

The last of these basic activities, the care of the indigent sick, is a matter of community determination. In some localities the indigent sick are cared for by practicing physicians who are paid out of community funds. In other communities, such as Louis-

ville, the indigent sick are cared for entirely or largely by physicians and institutions paid from public funds. To deal with the indigent group, we have adopted the plan of turning over the responsibility of the care of this group, both preventive and curative, to public health agencies. These activities include prenatal care, child welfare immunizations in both pre and school groups, physical examinations, as well as home or hospital care when ill or injured, in the same fashion as the private physician is expected to do for those who pay. Preventive medicine in its various aspects here becomes a proper function of public health service.

Cost of Public Health Service

If Public Health Service is to carry on efficiently, like all other functions of government, it necessitates an expenditure of funds. A great difference of opinion exists as to how much should be so expended out of the public treasury. In a publication by the Commonwealth Fund, Community Health Organization, by Hitchcock, it was estimated that for proper health official activity, there should be an annual appropriation of one dollar per capita of population served as a minimum. It is further estimated that every community with a population of 10,000 or more should employ a qualified health officer on an all-time basis. The qualifications for such a health officer might also be a matter of some dispute. In some localities he is not required to be a physician, but one who is trained in public health work. There is some argument in favor of non-medical scientists as health officers in that they are not permitted by law to engage in medical practice in competition with local physicians; that it assures a better cooperative spirit sometimes with the health officer than if he was suspected of using his office for purposes of building up his private practice. It is estimated that during 1934 about one-half the local health officers in the United States were engaged only on part-time basis, that is, they divided their time between public health duties and private practice. Some considerable and withal interesting controversy has obtained with regard to whether or not that it should be an all-time health official or whether it would be best to have a part-time official. The argument in favor of all-time officials is that when one divides his time and services between his health duties and the requirements of private practice that one or the other of these is bound to suffer. If his practice is growing, it must take more and more of his interest as time goes on, and after a while considerably less health activity is engaged in. On the other hand, if he becomes more and more interested in public health work, less and less will his private practice grow. On the whole, I think that a full-time medical health officer is the desirable requirement. There should be no reason for his not being welcomed by the medical fraternity. There is no reason why there should not be a splendid cooperation between the health officer on the one hand and the private practitioner on the other. In these days when the medical profession is being harassed on all sides by cultists, reformers and impractical idealists, even vindicative opponents, the voice of the public health officer can be very materially helpful in furthering the interests of the medical profession as a whole and bringing about a better understanding between the medical profession and the public. One might conclude, then, with the adjuration, "Don't shoot your health officer."

Incidence of Illness

It appears from studies that people are, on an average, disabled by some illness once yearly. The results of such studies must vary with the nature of the group studied as to age, vocation, season and residence. On the basis of this estimate there are about one hundred and twenty million cases of disabling illness annually. This figure would be doubled if non-disabling illness were added. There are about thirty-six million wage-earners in the United States. The average loss from work by disabling illness is seven days per year per capita. This represents a loss of two hundred and fifty million work-days each year. It is estimated that the twenty-four millions of school children lose one hundred and seventy million school days yearly.

From a discussion of the amount of illness obtaining in any one year, our curiosity would naturally next seek the causes. There is surprising uniformity in the relative incidence of the first bracket of say ten in most of the studies that have been made. The common cold heads every list. Influenza, digestive disturbances, tonsillitis, non venereal genito-urinary diseases, disorders of the nervous system, measles, arthritis, heart and skin diseases, follow in sequence as named. The studies of groups in school age show some difference in order of frequency, but the common cold again heads the list. Then follow tonsillitis, digestive disturbances, influenza, teeth, measles, ears, mumps, skin diseases and whooping cough.

TABLE 5

Disabling Diseases Listed In Order Of Frequency And Days Lost From Work Or School

Families	School Children
Colds	Colds
Influenza	Tonsils
Dig. Disturbances	Dig. Disturbances
Tonsils and Larynx	Influenza
G. U. non-venereal	Teeth
Nervous System	Measles
Measles	Ears
Arthritis	Mumps
Heart	Pertussis
Skin	Scarlet Fever

The incidence of reportable diseases, naturally, presents a different order than the thought suggested by a study of disabling illnesses. In Louisville for the year 1932 the order of frequency was scarlet fever, influenza, tuberculosis, pertussis, venereal diseases, mumps, pneumonia, chicken pox, diphtheria, erysipelas, typhoid and measles. This order is of little value in health surveys from an economic viewpoint, since communicable diseases appear in epidemic waves. (Table 6).

TABLE 6

Incidence of Reportable Diseases In Louisville 1932

1. Scarlet Fever	8. Pneumonia
2. Tuberculosis	9. Varicella
3. Influenza	10. Diphtheria
4. Tuberculosis	11. Erysipelas
5. Pertussis	12. Typhoid
6. Venereal Diseases	13. Measles
7. Mumps	

Arrangement of diseases in order of causes of death likewise gives a misleading impression from an economic viewpoint. Heart disease heads the list, but two thoughts at once occur: (a) the vital statistics reports of death from heart disease carries a larger rate of deaths than is actually true, since most of sudden deaths, with no autopsy, are so signed by both physician and coroner. (b) Many of the actual deaths from heart disease result from angina and coronary disease and often occur with little or no previous disability. The average cost of heart disease is $49.00 when cared for in the home and $290.00 in a hospital.

TABLE 7

Causes of Death Arranged in Order of Frequency

1. Heart	5. Cerebral Hemor.
2. Pneumonia	6. Tuberculosis
3. Cancer	7. Diseases of Infancy
4. Nephritis	

A study of the incidence of defects throws some light on the economic relation of disease to public health work. Surveying the whole population, including all ages and both sexes, the incidence of defects in 1932 was about as shown in Table 8.

TABLE 8

Incidence of Defects in Population U. S. 1932

Condition	Number
Defective vision	2,970,000
Blind	100,000
Tonsils	4,950,000
Teeth	4,250,000
Hearing	3,000,000
Heart and vessels	3,300,000
Diabetes	1,000,000
Tuberculosis	1,000,000
Drug Addicts	150,000
Malaria	1,000,000
Mentally defective	1,000,000
Venereal diseases	1,000,000
Skin diseases	2,000,000

Studying the school group, one finds a composite picture for the whole country fairly accurately shown in Table 9.

TABLE 9

Incidence of Defects in Children In U. S.

Condition	Percentage
Eye	90
Glasses necessary	33
Teeth	50
Tonsils	33
Hearing	15
Nutrition	20
Mental	10

Births annually over 2,000,000

Limitations of Public Health

A motley group called "Minor Respiratory Diseases" includes such conditions as croup, coughs, colds, catarrh of the nose, sore throat, tonsillitis, Grippe, laryngitis, etc. Relatively unimportant as they are from the standpoint of mortality, they frequently rank high from the standpoint of morbidity in that they occur so frequently that the total cost of their treatment ranks third in importance among all the causes of sickness, and they rank first in importance from the standpoint of loss of wage hours in employ-

ment. The average cost of medical care per case is about $6.00. By far the larger per cent of people suffering from this group of conditions treat themselves at home with family or proprietary remedies.

Compared with minor respiratory conditions, accidents and accidental injuries are relatively expensive, costing on an average of about $17.00 a case. This fact, together with the frequency with which they occur, combines to make accidents fourth in importance as a matter of total cost of treatment. The cost of the care of these accidents has little relationship to the size of the family to which the individual belongs who is injured. In other words, there is less tendency for increase of expense of treatment for this class of injuries than in many illnesses. The proportion of cases that require a doctor are somewhat in direct relation to the income of the family group. Rather strangely, increase in the income of a family does not result in any consistent increase in the amount of medicine purchased nor in the proportion of cases of accidents requiring hospitalization or even trained nurse's care. The amount expended on X-rays, light treatments, etc., does bulk larger in this group than in many others.

Under the term common disturbances of the digestive system we may include all the digestive upsets, so called indigestion, biliousness, dyspepsia, nausea and gastritis, constipation, diarrhœa, enteritis and many of the liver troubles. The combined expense as compared with the total cost of medical care puts this group as eighth in relative monetary importance. The average cost of such a case is less than $10.00 each, but the total amount expended bulks large because of the large number of cases that develop. Not more than 6 per cent of people suffering from this group of troubles consult a physician and less than one-half of the total money spent in the treatment of digestive disturbances goes to the doctor; only about 7 per cent goes to the hospital and smaller amounts go to nurses and the drugstores.

Pneumonias rank about tenth in the grouping as to cost of individual illness. The average cost of such a case which is not hospitalized is $58.00, while the average cost of a hospitalized case is $206.00. The cost of treatment of pneumonia varies rather definitely with the income of the head of the family, though the variations of the physician's services is relatively small, regardless of income. What contributes to the greatest extent in the difference in cost of pneumonias with reference to the income of the family is that in the higher income groups the services of a trained nurse are more frequently required, as well as is hospitalization more frequently resorted to.

And then follow in close order with reference to the relative cost of particular diseases, heart diseases, kidney diseases, arthritis, all of which bulk rather large from the standpoint of the total number of cases that occur, but relatively smaller from the standpoint of cost of individual care. The reason for the low cost of each individual case is the infrequency with which such cases are hospitalized and with which trained nurses are employed.

I have dwelt upon this phase of the cost of illness of different kinds of diseases for the definite reason that I wish to stress the relative ratio which the group of transmissible diseases bears to the ones which I have mentioned above. Measles, whooping cough, scarlet fever, small pox, diphtheria, these are the diseases that bulk so large in public health campaigns. They are what may be called the talking points of most public health propaganda. They are the conditions which with adequate public health supervision and with proper protective measures, such as immunization, may be satisfactorily controlled in most instances. But what can be done from the standpoint of public health about protecting the public against the minor respiratory disease groups or the group of accidents or the group of common disturbances of the digestive tract or pneumonia or diseases of the heart or kidneys or arthritis? Public health activity cannot materially influence the incidence of these conditions and can certainly have no effect on their mortality or the disabilities which result from their occurrence.

Cooperation in Preventive Medicine

That the treatment of disease occurring in those able to pay is the function of the private practitioner is stressed by the profession. That mass measures, such as sanitation, water purification, food control, the study of epidemics, are, largely, the function of public health agencies is generally accepted.

Between these zones of medical activity lies "No Man's Land." Public health officers have made soirees into this zone until they have come to feel it is theirs by virtue of conquest; they have done small pox and typhoid vaccinations, diphtheria, scarlet fever, measles, even hay fever immunizations, sponsored Summer Round-Ups, Better Baby Campaigns, Prenatal Clinics, Post Natal Clinics, Tuberculosis Campaigns, May Day Committees, Child Health Days, Mad Dog Panics, Parent-Teachers Activities, until the organized profession has awakened to the realization that corporations and govern-

mental agencies have reenacted the fable of the Arab, the camel and his tent. It is now insisting that not only the treatment of disease, but even a participation in preventive medicine is a function of the profession.

Public health officials are recognizing the soundness of this principle. Voluntary and quasi-official health organizations now constitute the opposition. They are making a sort of "Custer's Last Fight." But preventive medicine will be carried on in the future through an understanding and cooperative activity of the profession and public health agencies. In many states and in more cities workable plans have been put into execution whereby preventive medical service is carried on as a personal service of the family physician.

The American Medical Association through its Bureau of Health and Public Instruction is now cooperating with the American Child Health Association in planning a campaign against diphtheria. Even the militant Milbank Foundation has accepted the resignation of John A. Kingsbury apparently because of differences of opinion as to carrying on in defiance of organized medicine.

I am closing with an extract from an address by Dr. Jos. H. Kinnaman of the Iowa State Department of Health:

> "Today intelligently administered public health agencies strive to keep patients in the hands of the private physician whenever possible. This policy permits a lowering of government costs and aids in preserving the institution of private medicine. Cooperation, not opposition, is becoming the maxim of the day."

THE USE OF CORBUS-FERRY FILTRATE IN THE TREATMENT OF GONORRHEAL URETHRITIS*

J. MacMillan Townsend, M. D.

Louisville

The interest of the medical profession in developing a rational treatment for gonorrheal infection has been practically nil. We may see on every hand innumerable cases of gonorrheal infection which have been treated by a multitude of ineffectual types of therapy. Multiplicity of therapeutic preparations alone is proof of their ineffectiveness. Commercial drug houses have overwhelmed us with various drugs for the local antisepsis of the urethra and affected parts, such as the various dye preparations, silver salts in various forms, foreign protein for subcutaneous or intramuscular use.

A portion of this stagnation in the development of a rational treatment is due to the peculiar bacteriological properties of the gonococcus organism. We know that this organism is extremely difficult to culture and is both thermolabile and chemolabile, especially in vitro. We will not attempt to discuss the bacteriological developments which have taken place within recent years or the theories of immunity upon which this treatment is based, but rather to present clinical findings in a short series of 37 cases.

In reviewing the works of others as compared with ours, we find that the clinical results are very similar in both cases. A few of our cases were transient and passed out of our control before treatment was completed; therefore uniform deductions cannot be drawn in all cases. Our conclusions, therefore, are based on only those cases which have remained in our hands throughout the full period of treatment.

We will first consider briefly our routine handling of these cases. We have found, as have others, that in the treatment of private patients it is necessary to combine with the filtrate treatment our other adjuncts such as urethral injection, urinary antiseptics, certain instrumental procedures, and our routine instructions as to general body hygiene. As soon as we are convinced of our diagnosis, we immediately start our intradermal injections of Corbus-Ferry filtrate. In the adult patient we usually start with .1 to .15 cc intradermally, following this at weekly intervals with increasing doses of .1 cc until a maximum of .5 cc is reached. The weekly injections may be continued after this period, but we feel that there is no need for increasing the dosage. We have also tried a number of cases with injections twice weekly and feel that the patient is definitely benefited by this increased frequency providing he has no untoward symptoms, which will be discussed later. Practically the only variation in dosage one usually notes is in the case of children, in which the filtrate is usually diluted with equal parts of physiological saline and one-half the usual dosage given. Rarely do we see a patient who seems to be hypersensitive to the filtrate and requires that the dosage be decreased, or at least not increased, on subsequent injections. This point is determined by the size of the wheal resulting from the injection.

The optimum reaction seems to be a wheal with a diameter of approximately 2 inches. If the reaction is less than this, the dosage may be increased faster than outlined. When the size of the wheal is 2½ inches or over, we feel that the subsequent dosage should remain the same as the previous one. We

*Read before the Jefferson County Medical Society.

have chosen as the site of the injection usually the buttocks. We feel that there is a definite advantage to this site over other parts of the body because of the fact that the lymphatic drainage in this area points toward the genitalia or infected parts. One will frequently find that 24 hours after the injection there is a definite inguinal adenitis upon the side of injection and that the glands are moderately enlarged and slightly tender, but these symptoms readily subside within the next 24 hours. This is considered by many to be a positive reaction toward the infection. We also noted in several cases that the epididymis upon the injected side will also show a definite enlargement and tenderness but will subside without difficulty. At least 6 cases have come to our attention which have been treated by intradermal injections in other parts of the body and they have failed to show a satisfactory response. These cases, when started on injections of the filtrate into the buttocks, have as a rule shown a very definite improvement.

Out of the 37 cases included in this report, we have found that the average number of injections for the successful treatment of this condition is 7. The duration of the infection previous to this type of treatment does not seem to be important in regard to the length of time ultimately required for its cure. We have roughly grouped these 37 cases into the acute, subacute, and chronic stages. Of these cases, 14 were seen within the first 2 weeks following infection; 13 were seen before the infection had become 2 months old, and 10 were cases with a positive smear ranging in duration from 4 months to 3 years. One advantage which this type of treatment has is that it reduces the possibility of complication. In our group of cases, when first seen, it was found that 5 had prostatic abscess, 2 periurethral abscess, 3 terminal hematuria. 1 stricture and 2 epididymitis. Almost 50 per cent of this group, or 18, had an active infection of the posterior urethra and prostate. It might also be interesting to note that 3 of this series had the congenital deformity of hypospadias which materially adds to the difficulty of clearing up these infections. Following the institution of this treatment we have seen only 2 complications: one acute case developed an epididymitis and the other a very small periurethral abscess about the frenulum. Both of these cases, incidentally, gave us very poor cooperation in regard to general hygienic measures.

In making the injection, we are very careful not to inject our filtrate into the site of a previously sensitized area, as it has been noticed that these areas become so solid from inflammatory reaction around the site of injection of the foreign protein that the injected material no longer gets into the circulation, but produces a local necrosis. This is known as Arthur's phenomenon. Since an injection will leave a definite area of pigmentation for several weeks following, it is very easy to avoid any reaction of this type.

The question of over-dosage we had drawn to our attention not long ago in a case of a man with an active infection in the presence of a known urethral stricture. Within 24 hours after the injection was made the patient complained of marked difficulty in voiding as well as pain in the perineum. Associated with this was a general systemic reaction, the patient having general body aches with the sensation of moderate chills and fever. This, as in other cases, is only a transient affair and if treated symptomatically will promptly subside. The difficulty in voiding in this case was probably due to a definite engorgement of the mucosa associated with the injection of the filtrate plus a definite narrowing of the urethra.

Our experience in the treatment of gonorrheal vaginitis in both the child and adult has been much more limited, yet in either case we have found that this type of treatment has been a very material aid.

In conclusion, we do not wish to advocate the use of the Corbus-Ferry filtrate as a "cure-all" in this regard nor do we wish to give the impression that its use will compensate entirely for a patient's uncooperativeness along general hygienic lines. But we do feel that this preparation is the greatest single step that has been taken towards scientific solution of the problem of gonorrheal infection.

DISCUSSION

W. O. Johnson: I wish to add my limited experience to Dr. Townsend's excellent presentation of the use of "Corbus Ferry" vaccine in the treatment of Gonorrheal lesions. All the cases I have treated have been in the female.

The outline suggested by Dr. Townsend has been carried out in these cases, having in addition to this, only frequent hot douches. All of the cases thus far treated with the vaccine have been severe and multiple points of infection. The complications did not seem to be as severe, but were not apparently reduced.

In the cases with definite diagnosis that were started early with the vaccine treatment, the reactions were quite active following the first three treatments, and in these cases with the most severe reactions the results seemed to be more prompt.

In the cases with extensive pelvic exudate, following the use of douches and vaccine the exudate seemed to be absorbed more rapidly than has been my experience in previous cases not treated with vaccine.

I agree with Dr. Townsend that this treatment, together with general measures seems to be a step forward in the treatment of gonorrheal infection, for in my experience with its use in the treatment of females the results have been gratifying.

W. W. Nicholson: The theory of using filtrate intradermally is that the skin is more sensitive than the rest of the body and is more capable of throwing off antibodies if stimulated.

Filtrates have been used in whooping cough without success.

I have certainly enjoyed Dr. Townsend's paper and I am glad to know that some have been more successful than we have been, because in G. C. vaginitis in children it has not been anything up to what we expected, in fact, we have not seen any good at all. Even though we stepped the doses up in a great many instances we would not get any local reaction, but when the patients got a reaction, we could not see much change in the condition.

J. MacMillan Townsend (In closing): I appreciate the remarks by Doctor Johnson and Doctor Nicholson. Doctor Nicholson just stated that some of the cases did not seem to get reactions. I have never seen one that did not. In fact, if they do not react there is something decidedly wrong about the point where the material is injected.

Another point which I would like to make is that Corbus Ferry filtrate may be used diagnostically. I am referring to those cases in which the infection is suspected but cannot be proven when first seen. These cases are given an unusually large dose of the filtrate, following which an increased amount of urethral discharge may be noted and the organism then demonstrated. I feel that this point is well worthy of emphasis in view of the fact that heretofore we have had to use rather inadequate means of determining whether these cases were free of infection.

Sarcoma With Unusual Localization.—The first case of polymorphic cell sarcoma of the penis in a man aged 63 is attributed to trauma at the site one year earlier. One of the two cases of subungual sarcoma was in a girl of 15, the other in a woodchopper aged 40. Hval says that both cases presented a characteristic history with unusually pronounced pain in the finger; after the lapse of months a not particularly characteristic ulceration appeared. In the long-continued onychias the possibility of sarcoma should be considered and a histologic examination of a specimen excision made.

BRAIN ABSCESS COMPLICATING ACUTE OTITIS MEDIA, WITH CASE REPORT*

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Louisville.

There are three major intracranial complications of acute and chronic suppurative middle ear diseases; lateral sinus thrombosis, meningitis and brain abscess, and there is an interrelationship between these conditions for usually underlying all intracranial suppurative affections of aural origin is a thrombophlebitis of a small or large venous radicle.

All three of these complications are much more frequently associated with purulent otitis than with sinus suppuration because the mucous membrane of all the accessory sinuses contains a protective mechanism which does not exist in the middle ear or mastoid cells. Although the average otologist, unless he is on the staff of some large hospital, very seldom encounters one of these serious conditions, it is a fact that there is a potential danger of any one of these complications in every middle ear inflammation regardless of its severity when the patient is first seen by the physician. Statistics available to me show that in one series of 969 mastoidectomies there were 14 cases of sinus thrombosis or 1.4 per cent, but in another series there were as many as 19 cases in 497 mastoid operations or 3.8 per cent. I could find no statistics on the occurrence of meningitis and brain abscess, but feel sure that these two complications are not near so frequent as sinus thrombosis.

The diagnosis of sinus thrombosis and meningitis is very much easier than in most cases of brain abscess, and it is because that this very serious complication is often not diagnosed until it has ruptured into the lateral ventricle, and is too late for surgery, that I report a recent case and discuss the problems which we have to solve before the abscess was definitely diagnosed, located, and the proper time for, as well as the best method of operative intervention.

Many conditions may lead to brain abscess, but septic diseases of the ear are the most common causes, being responsible, in civil practice, for about 50 per cent of the cases, and leading trauma of the head as the next most frequent cause. Therefore, the recognition of brain abscess is not only the problem for the otologist, neurologist, and neurosurgeon, but it behooves all members of the medical profession, especially the men doing general practice and pediatrics to familiarize themselves with the symptoms of this condition because any case in which vague or defi-

*Read before the Louisville Medico-Chirurgical Society.

nite signs of intracranial disease develop and in which can be obtained a history of antecedent otitis media, no matter how mild or transitory the ear condition may have been, should be considered a possible case of brain abscess.

It has been stated that there is no organ in the human body that can conceal its trouble so carefully as a brain which harbors an abscess, nor is there a pathological lesion that explodes with such sudden and fatal results: also some writer has aptly said that in one way a brain abscess offers the physician more than any other lesion because he knows that it is always fatal if not operated on.

A brain abscess may be defined as a localized intradural collection of pus, usually referred to by its anatomical location as frontal, temporal and tempero-sphenoidel and cerebellar abscess. When the abscess is of otitic origin, the infection spreads into the dura (1) by direct extension of the suppurative process in the mastoid cells, (2) by a retrograde thrombophlebitis of the small venules draining the middle ear and mastoid cells, and the infection carried into the brain by the veins, and (3) by the perivascular spaces of the cerebro-spinal system.

The exact mode of development of the lesion is not accurately known, but the time may vary from a few days to several weeks and a patient may have a latent abscess for several years.

There are three different stages; 1st—the acute stage before capsule formation, and in some instances a capsule is never formed. 2nd stage is the quiescent stage, following capsule formation, which if the abscess becomes completely encapsulated may be followed by a disappearance of all symptoms. 3rd—The latent stage, but this is rarely encountered because the patient is usually operated on or dies in either the first or second stage.

In my opinion the most important aid in the diagnosis of a brain abscess is a complete and carefully taken chronological history. It often happens, especially when the patient is a child or an adult apathetic from the toxemia, that a detailed history can only be obtained through some member of the family who has been closely associated with the patient since the first appearance of symptoms suggestive of some intracranial complication. Headache and vomiting are the two most constant symptoms of any cerebral disturbance, but headache, vomiting, vague chills, malaise and irregular fever are quite common to many diseases, therefore, the family doctor or pediatrician should search carefully for any history or evidence of ear inflammation, and no matter how trivial the ear condition may appear to him he should call an otologist in consultation unless he can definitely determine the cause of these symptoms. Given a history of vague or pronounced cerebral symptoms, together with evidence of an acute or chronic ear suppuration the patient should have the benefit of a systematic neurological examination either by a neurologist or a neuro-surgeon as in many cases it requires the combined effort of two or three medical men to diagnose and locate a brain abscess.

If an otologist has had a patient under treatment for some ear condition, and this patient has symptoms of headache and vomiting, he should always bear in mind the possibility of some intracranial complication, before doing a simple or radical mastoid operation. Quite frequently cerebral symptoms develop subsequently to the mastoid operation, and in such cases the otologist should always remember and carefully record the findings at the time of operation: (1) Was an extra dural or perisinous abscess found? (2) Was there any involvement of the deep cells within the petrous bone? (3) Was there an osteo myelitis involving the squamous portion of the temporal bone? (4) Was there a labyrinthitis? (5) Was there any evidence of sinus thrombosis?

It is not within the scope of this paper to enter into a lengthy discussion of the diagnosis and localization of a brain abscess, and I shall only mention some of the most important symptoms. The headache is unlike any other type of headache except, possibly, that of a brain tumor. It is usually constant and unrelieved by any form of medication. It is usually an intense frontal headache but may be situated in the temporal region directly above the ear or in the occiput, and is caused by irritation of the dura. It is frequently attributed to some other diseases, but a carefully taken history will usually show the seriousness of this type of headache. Any continued vomiting in the presence of an aural suppuration should be regarded with suspicion. It is seldom of the projectile type, and is apt to be attributed to a gastro-intestinal upset. General malaise is frequently the only symptom during the early stage of brain abscess. Other general brain symptoms which are usually present are vertigo, slow cerebration and often a slow pulse. There is nothing suggestive about the temperature except in the quiescent stage it may be normal or sub-normal. A single initial chill is frequently one of

the early symptoms. Some writers attach considerable importance to the presence or absence of choked disks and defects in the field of vision.

Dr. C. C. Coleman of Richmond, Va., in a review of twenty-eight cases of brain abscess, reports ten frontal lobe abscesses with only three showing definite nerve head changes. Of Dr. Coleman's twelve temporal lobe abscesses, seven showed choked disks. In three cases of cerebellar abscess the disks were only slightly blurred in two. Convulsions are more common in infants than in children or adults, and there may be changes in both tendon and cutaneous reflexes. A white blood and differential count may or may not give valuable information, but there is usually a leukocytosis, especially in the initial stage. Lumbar puncture for diagnosis is sometimes dangerous and is often of little help except to show increased intracranial pressure and the degree of activity by the presence or absence of polynuclears. However, during the development of a brain abscess there may not be an increase in pressure or high cell count because the meningeal system is only locally involved.

In general, it may be said that an abscess in the frontal lobe being in a silent area does not cause focal symptoms, and late diagnosis results. A temporal lobe involvement with the symptoms of (1) naming aphasia (2) hemianopic indentation of the visual field (3) contra lateral paresis or paralysis is the easiest to diagnose and locate. An abscess in the cerebellum often follows a diseased labyrinth or a sinus thrombosis or perisinous abscess. A spontaneous nystagmus lasting for several days and associated with the general signs of brain abscess will usually locate the abscess in the cerebellum.

On account of the small size of the posterior fossa the symptoms of general pressure frequently overshadow all others in a cerebellar abscess. Cranial nerve lesions especially of the third, sixth and seventh cranial nerves may help in the diagnosis and location of a brain abscess.

Limitation of time will not permit a lengthy discussion on the treatment. It is summed up in a few words—surgical drainage. Before the days of the brain surgeon, the otologist not only had the responsibility of the diagnosis but also it was customary for him to locate and drain a brain abscess of otitic origin. He was forced to search for and drain the abscess through an infected mastoid wound. Although few of his patients recovered, a big majority died.

In my opinion, especially if a good brain surgeon is available, the operation should be performed by him instead of the average otologist, who has had so little experience in brain surgery. I wish to strongly emphasize the importance of delaying the time of operation until encapsulation has taken place. This is usually indicated by the subsiding of the septic temperature, the receding leukocytosis and the localization of the abscess by the neurologic symptoms.

The early symptoms are caused by an encephalo-meningitis, and early operation before immunity has been established will result in spreading of the infection and death from meningitis. Of course, there is danger if one waits too long as the abscess may extend, or rupture or the patient may suddenly die of respiratory failure. It requires considerable judgment to select the optimal time for operation.

During the past few years the medical literature has contained the reports from several operators all of whom advocated their own technique and with results which are widely different: Dr. McEwen from his large and successful experience with brain abscess regarded it as one of the most favorable of cerebral lesions. Dr. C. C. Coleman reported in the A. M. A. Journal, Aug. 1930, twenty-seven cases with nineteen recoveries and nine deaths. Dr. O. J. Dixon of Kansas City in the A. M. A. Journal, Feb. 1931, reported twenty-five cases with only six recoveries. In the discussion of this article by Dr. Dixon, one operator stated that he had operated on ten cases of cerebral abscess, complicating otitis and every patient died. In the Archives of Laryngology, 1933, Dr. Faunce of Boston reported six patients with abscess of the brain, following mild transitory otitis media with five recoveries and one death, and in this fatal case the autopsy showed two temporal lobe abscesses which he failed to locate. Dr. Dandy has emphasized the importance of a minimum amount of surgery and advocates the draining of the abscess through a clean field by repeated tappings. Although his method seems the simplest and best, it was my first impression that it would not be adequate. Dr. Glen Spurling adopted this method in successfully treating the case which I am reporting, and I shall ask Dr. Spurling to talk on this phase of the subject.

Case Report

Mary T., Age 9: First seen on February 21, 1933, with history of a severe head cold for a week, left frontal headache, and a severe earache in the left ear for four days. Her mother had neglected to call Dr. Lee

Palmer to treat this patient for the cold and ear ache, and waited four days after the ear ache appeared before consulting me. Her temperature was 102 and she appeared quite sick. Her previous history was negative except that she had a moderately severe attack of scarlet fever at age six with no complications except ear ache on the left side which subsided in three days without any discharge. The left ear drum was red and bulging and a wide opening was made in the drum membrane under gas anasthesia. A profuse discharge of thick pus came from the ear. She had a comfortable night except for a left frontal headache.

On the second night the headache over the left frontal area was very intense, her temperature was 103 and she had vomited several times. Dr. Lee Palmer saw this patient with me and we found the left ear was draining freely, and there was no mastoid tenderness. As her abdomen was somewhat distended, Dr. Palmer and I first thought that the vomiting and headache were due to a gastro-intestinal upset and after an enema, aspirin, cremo-carbonates and elixir lacto pepsin her vomiting subsided and the headache was so greatly improved that on the following day we did not see her. On February 25 she complained of a pain in her right ear and the left frontal headache had reappeared. I opened the right ear drum and enlarged the opening in the left ear drum. The nasal sinuses and eyegrounds were negative.

Blood Count: W. B. C., 15,250; Polys., 1 per cent; Lymphs., 68 per cent; Eosin., 1 per cent.

On account of the very high temperature we thought of the possibility of acute pyelitis, but the urine was negative. Both Dr Palmer and I had in mind the possibility of some intracranial complication, but on the following day found the patient very much improved. Her temperature was practically normal; there was no suspicion of mastoid involvement and although the frontal headache never entirely disappeared, she slept fairly well; there was no vomiting and we all felt that this patient was on the way to recovery. Dr. Palmer kept in touch with this patient, but for several days neither of us thought it necessary to visit her as we felt her mother would let us know immediately if any untoward symptoms developed.

Six days later the left frontal headache became severe and her temperature was 102. The opening in the left ear drum had closed and the drum gave almost a normal appearance. The right ear was drained slightly and there was no sign of mastoid tenderness over either mastoid.

Blood Count: R. B. C., 4,890,000; Hemo. 76 per cent; W. B. C., 26,200; Polys., 57 per cent; Staffs. 24 per cent; Juvenile, 1 per cent; Lymphs. 17 per cent; Mono., 1 per cent.

Early on the morning of March 8 her mother phoned Dr. Palmer that patient had had a severe chill and her temperature was 105. After examining this patient and finding no signs of meningitis we suspected a sinus thrombosis and ordered her sent to the hospital.

There was no discharge in left ear and ear drum gave an almost normal appearance. there was a slight amount of discharge from right ear. temperature at 8 p. m. was 102 and frontal headache so severe that codeine grains ¼ with empirin were given. X-ray of both mastoids and nasal sinuses were taken by Dr. J. C. Bell, who reported that the sinuses were practically negative, but that neither mastoid is entirely normal in appearance. The mastoid cells were not well defined and there is little generalized increase in the density. There is no evidence of cell wall destruction on the left, but it is my impression that there is some effusion present. On the right side there is more increase in density especially in the region of the mastoid antrum, where it would be impossible to say with certainty that no cell wall destruction is present. The sinus channel on the right is unusually prominent, but I believe that this is due to the fact that it is superficially placed rather than that there has been destruction about it.

On March 9th, patient had a fairly good night: temperature was normal, but on account of severe headache Dr. Palmer and I felt that we were dealing with some intracranial complication and called Dr Glen Spurling in consultation for a neurological examination. This Dr. Spurling reported, was negative except for some engorgement of the vessels in the left eye and a supra-nuclear type of facial weakness on the right side.

Blood Count: W. B. C., 15,500; Polys., 83 per cent; Mono., 1 per cent; Lymphs. 15 per cent.

On account of Dr Spurling's findings we all felt that we were dealing with a left frontal lobe abscess, complicating a left otitis, but Dr. Spurling advised against any mastoid surgery until we had more clinical evidence.

Headache and vomiting continued with not much change in pulse or temperature.

Another X-ray was taken by Dr. Bell, who reported that "there seems to be distinctly more haziness on the left than on the right. This is particularly true in the region of the mastoid antrum and in the zygomatic area. From the X-ray standpoint there seems to be more evidence of inflammatory changes on the left than on the right today."

Examination by Dr. Hall showed a recurrence of the discharge in the left ear with pain and tenderness on pressure over the zygomatic area. He found no discernible alterations in the discs or retinal vessels on either side. He suspected a possible suppuration in the zygomatic cells on the left side, but advised a blood count and careful watching for 24 hours.

Blood Count: W. B. C., 15,150; Polys, 84 per cent; Mono., 3 per cent; Lymphs., 13 per cent.

On account of this recurrence of the discharge in the left ear and the X-ray findings also, on account of Dr. Hall's suggestion of the zygomatic mastoiditis, I opened this mastoid at 4 p. m., but was disappointed in not finding more evidence of disease, although there was some soft granulation in the left antrum and at the tip of the mastoid, one large cell was filled with thick tenacious pus, overlying the lateral sinus. The sinus wall was exposed and looked healthy, and I uncovered the dura over the mastoid antrum and this looked healthy, and there was no evidence of disease in the zygomatic cells. A culture of the pus from the tip of the mastoid showed pneumococcus type 3. On March 12th patient reacted well from the operation, but in the afternoon she became delirious and was talking at random. Dr. Palmer and I felt that possibly we allowed the nurses to give her too much codeine to relieve the headache, although, of course, at this time we were on the lookout for meningitis, but there was no stiffness of the neck, and no Kernig's sign. Instead of the codeine we ordered Dilaudid 1-64 of a gr. by hypo. The vomiting had become so frequent that patient was becoming dehydrated, therefore, we ordered saline solutions by proctoclysis.

Irrational periods did not last as long, but patient does not recognize anyone, not even her mother. For the first time there was definite evidence of aphasia. This was of the sensory type and spoken of as a naming aphasia or anomia. This defect of speech was recognized by the fact that the patient was unable to give the name of several common objects which were shown to her. For instance when she saw a pencil, she knew it was something to write with but she could not say pencil; a watch was something to tell time with, but she could not say watch; a glass was something to drink from, but she could not say glass. This symptom was most important and is pathognomonic of a left temporal lobe involvement, especially since we were dealing with a right-handed individual. The weakness of the right facial muscles was more marked, but there was no evidence of any weakness in the muscles of the arms or legs. The headache was intense, and occasionally there was projectile vomiting; the temperature, pulse and respiration were normal; the left eyeground showed definite evidence of edema.

On March 14th the anomia was more marked and the weakness of the lower right facial muscles was increased.

Blood Count: W. B. C., 10,950; Polys, 84 per cent; Eosin., 1 per cent; Mono., 2 per cent; Lymphs., 13 per cent.

Because the patient was unable to retain but very little proctoclysis and the vomiting was so pronounced, we gave her intravenously 100 cc of 25 per cent glucose solution.

The temperature was normal and for the first time we noticed a slow pulse; the rate going as low as 60. Up to this time we had not made a spinal puncture because we were sure that we were dealing with a brain abscess, and were afraid that a sudden withdrawal of the spinal fluid might cause the abscess to rupture into the ventricle. The cerebro-spinal fluid pressure registered 190 mm. and the Ayer-Toby sign was negative. The spinal fluid was clear and the cell count showed 14 lymphocytes, no neutrophils and no globulin.

At this time, there appeared in the A. M. A. Journal on March 11, 1933, an article: "Spinal Fluid Cell Count and Encapsulation of Brain Abscess" by Dr. Henry W. Woltman of Mayo Clinic. This writer emphasized the danger of draining a brain abscess before encapsulation, and stated that the safest time for operation was when the spinal fluid contained a small number of lymphocytes, and the absence of or only a few neutrophils. An appreciable number of neutrophils may indicate an extension of the abscess or close proximity of the abscess to the ventricle. Dr. Woltman also stated that the safest time for operation was seldom as early as two weeks, and often as late as six weeks after the period of invasion.

Now that we knew this little patient had a brain abscess and knew its location the problems arose as to how long it had existed, how well it was encapsulated and what type of

operation was best suited for this case.

Blood Count: W. B. C., 6,750; Polys., 62 per cent; Eosin., 1 per cent; Mono., 9 per cent; Lymphs., 28 per cent.

For the next three days it was very difficult to continue the watchful and waiting policy, especially since our patient was suffering with intense headache and vomiting, and on account of the aphasic condition the family felt that the child was losing her mind and insisted that we "do something."

We decided that this was the time for operation and Dr. Spurling selected the Dandy method of tapping and draining the abscess. The operative record shows that he and Dr. Jelsma, under avertine and ether anesthesia, made a burr-hole in the mid-temporal region. "The dura was found to be very tense and not pulsating. The dura was coagulated with the Bovie Electro and incised with the cutting current. The subarachnoid space was obliterated about the needle tract and the needle inserted into the temporal lobe and encountered an abscess one cm. below the surface. About 20 cc of typical pneumococcus pus was drained. The wound was closed in layers without drainage." The patient was returned from the operating room in good condition.

After a rather stormy period of reaction from the operation, probably due to encephalitis, the temperature became normal, the eyegrounds cleared somewhat, the anomia practically disappeared and the patient was allowed to sit up in her wheel chair. During this time there was very little improvement in the headache and she begged for the hypodermics of delaudid.

On March 27th the anomia reappeared, the headache and vomiting became severe so we decided that there was a reaccumulation of pus in the abscess.

On March 28th we reopened the skin wound and tapped the brain abscess, obtaining about two ounces of thin yellow pus. No drainage established into the abscess cavity.

After another storm period of encephalitis we felt that this patient was in a very desperate condition, although her aphasia improved the day following her operation.

On March 30th the headache was so intense and the vomiting so projectile that we decided to retap this abscess.

Under ether anesthesia Drs. Spurling and Jelsma enlarged the opening in the skin and dura. The bone was removed around the old burr-hole opening the size of about one-half dollar. The inflamed area was explored for more abscess with a brain canula. No abscess was found. The dura was opened over the inflamed area to the size of about a twenty-five cent piece. The brain herniated immediately upon opening of the dura. The wound was packed open with gauze.

When we decided to do this third operation we thought of the possibility of an abscess cavity which had not been drained, but were very much disappointed not to find any pus, and the patient's condition was so bad that we were not very hopeful of the final results. Apparently, this third operation did no harm to the patient, but by the decompression lowered the intra-cranial pressure, since she gradually complained less and less of her headache, and vomiting, and the temperature and pulse, in a few days, returned to almost normal and we were able to discontinue the delaudid and by April 3rd she had stopped vomiting and began to show interest in food and was able to retain considerable nourishment. A few days later on April 5th, she was up in a wheel chair and from then on to April 11th she continued to show rapid improvement and was discharged in good condition. We, of course, kept this patient under observation for several weeks after her discharge from the hospital, always mindful of the fact that she might have a flare up of her disease, but she has never had any symptoms and has been able to keep up with her class work in school.

At the present time, twenty months since the abscess was last drained, she is in perfect health, and we have every reason to believe that she will continue in good health, mentally and physically.

DISCUSSION

R. Lee Palmer: There is very little I can add to Dr. Peabody's very complete history of the case reported except that it occurred during a year in which so-called influenza due to streptococcic infection was unusually prevalent, and consequently we were seeing a great many infected ears, mastoids and sinuses. I recall that, at the same time this patient was in the hospital, Dr. Barbour had a patient there who had developed an ear-ache one night, a discharging ear the next day and death from meningitis ensued within a few days.

Why these conditions should occur one year and not another I cannot say. One year we will see the usual number of cases of grippe and influenza and there will be very few cases of ear, sinus and meningeal involvement, and in another year, with the same type of infection, we will see a large number of such complications. Why this should be, unless the organisms vary in virulency from one year to another, I cannot say.

To my mind this case impresses upon us the necessity of carefully watching and examining these patients from beginning to end. We watched this patient carefully all the time, with numerous neurological examinations, urinalyses and blood counts.

It also impresses upon us the importance of the pediatrician calling for help when he finds himself in the position of not knowing what to do, instead of procrastinating and putting it off until it is too late.

Joseph C. Bell: I wish to stress the point made by Dr. Palmer that the incidence of mastoid and sinus complications varies greatly in different years. In my own work I have observed that in some years these patients will uniformly present a unilateral infection with definite evidence of bone destruction and the diagnosis, from an X-ray standpoint, is comparatively easy. At other times we see many cases of bilateral involvement with no evidence of cell or wall destruction, making it extremely difficult for the roentgenologist to render a definite diagnosis.

In many infections without definite destruction, the infecting organism is likely to be the pneumococcus. Staphylococcic infections are more common. The pneumococcus is less prone to break down the cell walls but produces hemorrhagic changes without actual destruction.

I remember very well the case reported by Dr. Peabody. I recall how I worried about it and what little help I could give him. Dr. Peabody's findings at operation demonstrated why it presented such a difficult problem from an X-ray standpoint.

During the two or three years prior to the time this case came under my observation, I had seen a considerable number of mastoid infections and felt that I had reached the point where I could say, definitely, in most cases what would be found at operation. I then examined a number of cases similar to the one Dr. Peabody reports, where the roentgen ray findings were of little aid in establishing the diagnosis other than that there were changes due to infection in both mastoids without characteristic evidence of bone destruction. While in Detroit last year I discussed this subject with Dr. Lawrence Reynolds, who assured me he was having the same experiences there.

Adolph O. Pfingst: I am glad to speak on the subject for in the days that I was practicing otology I encountered five cases of brain abscess, two of which were operated successfully. It is interesting to note that sixty per cent of cerebral and eighty per cent of cerebellar abscesses are of otitic origin. We know of course that the temporal lobe of the brain is separated from the attic of the tympanic cavity by a very thin plate of bone, the tegmen tympani, and that in the chronic cases of otorrhea necrosis of the tegmen with coincident brain infection is not uncommon. It has always seemed strange to me that suppurative disease is not more common in the frontal lobe than it is, and that only five per cent of brain abscesses have their avenue of infection through the nose and accessory cavities. Anatomically we have very much the same relations of the brain to the infected area as is the middle ear, for the frontal cerebral lobes and the frontal sinuses of the nose are separated by a thin plate of bone. Then too the ethmoid cells rest very close to the brain. It would also seem that infection through the cribriform plate with its many minute perforations for filiaments of the olfactory nerves and for blood vessels would offer a favorable avenue of brain infection from the nose.

In cases of chronic suppurative otitis media with persistent headache, nausea, with or without vomiting, vertigo, somnolence, sluggish mentality, etc., to lead to the suspicion of brain involvement, the study of the optic nerves is often of great value, not only in establishing the diagnosis but in the localization of the diseased area. Brain abscess may assert itself in changes recognizable with the ophthalmoscope. In approximately twenty per cent of the cases optic neuritis, the result of inflammatory extension, is present and with somewhat greater frequency, about twenty-three per cent of cases, a true papillodema, or as we seem to choose to call it, "choked disc," occurs. These nerve changes are not pathognomonic of brain abscess for we know that they occur even with greater frequency in brain tumor (about ninety per cent of the cases) and they are not uncommon in meningitis, however they furnish very valuable corroborative evidence. Optic neuritis and papillodema occur in most instances in both eyes, although unilateral occurrence is not altogether uncommon. The observation has frequently been made that in bilateral occurrence the degree of inflammation or edema is usually worse on the same side as the abscess, and that in unilateral occurrence the pathology is nearly always on the side homolateral to the abscess, although the converse of this rule has occurred. Primary optic atrophy does not seem to occur in the presence of abscessed brain as it occurs with considerable frequency in neoplasms of the brain. However the optic nerve may be involved more peripherically in the temporal lobe or the occipital cortex where pressure or destruction of the optic radiation or the cortical optic nucleus may bring about homononymous hemianopia, thus furnishing a most

important localizing sign. Not infrequently the associated tracts in the temporal lobe which connect the centers of hearing and sight are involved in the degeneration process which results in optic aphasia. This evidently occurred in Dr. Peabody's case and in a case of a very large temporosphenoidal abscess of the left lobe which I observed years ago in which the diagnosis was made easy by the development of a typical optical aphasia.

An important diagnostic sign in brain abscess is the involvement of the oculo motor nerves of the eye. The third nerve is most frequently affected, either in its entirety or in one or more of its branches. Thus cases may be observed with ptosis while all of the other movements of the eyes remain unaffected. Next in frequency the abducens is affected causing convergent strabismus. Involvement of the trochlearis is quite infrequent.

Another important symptom encountered in brain abscess is nystagmus. This occurs more particularly when the cerebellum is the seat of the pathology. According to the figures of Uhthoff over forty per cent of cerebellar abscesses are associated with nystagmus as compared to five per cent in the cerebral cases. Thus we must look upon this symptom, especially when associated with disturbance of equilibrium, as a very valuable localizing sign. The nystagmus in these cases is exaggerated when the patient rotates his eyes towards the side of the lesion. The nystagmus of cerebral abscess may be due to involvement of the labyrinth of the internal ear, and in this event the sign becomes more noticeable when the patient looks in the direction opposite to the site of the lesion, the absence of audible perception through bone conduction would also point to a lesion of the labyrinth. Statistics indicate that two or three per cent of cases of brain abscess are associated with proptosis homolateral to the lesion. I have never seen a case with this symptom and do not know just how to interpret its development. Perhaps Dr. Peabody in closing could enlighten us on this point.

A. J. Miller: Dr. Peabody asked me to show you some specimens in connection with his paper and I am presenting two, demonstrating brain abscesses, one in the left hemisphere and the other in the left lobe of the cerebellum. These were both secondary to infected ears. The specimen showing cerebellum lesion was removed from a child, seven years old, diagnosis having been made before the child died. It was one of those unsuccessful cases in which it was expected that drainage would be instituted. Nevertheless, I wish to emphasize the fact that the modern trend is towards conservatism in dealing with brain abscesses. It seems to me that surgeons are becoming more and more conservative in the treatment of infections in all parts of the body. Not so many years ago surgeons were prone to remove the Fallopian tubes, for example, at the height of an infection. That is not done now. The practice now is to wait until the infection has subsided and the patient has demonstrated an ability to take care of it to some extent before drainage is instituted. Surgeons do not rush in and institute drainage in pleurisy; they wait until the condition has become more or less chronic —until the general reaction indicates some degree of resistance on the part of the patient, because they have learned that the acute stage of pleurisy is a dangerous thing to tamper with.

I cannot tell you the organism that was present in this second case. The pus had an extremely foul odor and upon submitting it to the bacteriologist, he isolated a gram-negative rod which he refused to name.

This specimen is from an adult. I want you to notice the displacement of the median fissure to the right and the amount of damage that has been done by the long-continued chronic pressure. This was also secondary to an ear infection. There had been a decompression operation in this case and you can see the herniation of the brain substance through the decompression opening. It is an unusually large abscess, extending from the mid-portion of the frontal wall through the left hemisphere to the occipito-parietal junction.

One thing that is more or less a mystery to me is the path taken by these organisms in getting from the ear into the brain substance. Very frequently this path is followed, postmortem, with extreme difficulty and uncertainty. In the case of the cerebellar abscess the path of the organism could be quite definitely followed from the middle ear, through the dura into the white substance of the cerebellar lobe. One would think that, with the organisms extending by continuity through the lymphatics or veins, or whatever structures are there, they would be apt to spread into the meninges. Sometimes they do but more frequently they do not, and in the case in question there was no meningeal involvement. There were distinct adhesions between the cerebellar lobe and the dura at the petrosa, and especially around the vestibulary foramen. After the brain had been removed, pressure in the cavity of the middle ear caused pus to ooze out of the vestibulary foramen, but there was no spreading of the infection into the meninges. There was great destruction of tissue in the white matter of the cerebellum which, if the assumption that the organism followed the path of direct extension into the cerebellar tissue is correct, would indicate a selective ac-

tion on the part of the organism, because there was little or no destruction of tissue until it got into the white matter of the cerebellum. In the other case, also, the greatest amount of destruction was noted in the white matter. I could not satisfactorily demonstrate the path of the organism in the latter case, but the clinical history and the bacteriologist's report clearly established that it was secondary to a middle ear infection.

I wonder if, as suggested by Dr. Peabody, this localization in the brain substance is, in fact, a localization following bacteriemia, the organism getting into the circulation passing through the lungs and localizing in the brain. Occasionally, direct extension into the vascular system can be demonstrated in mastoid infections; for example, it is not uncommon to see thrombosis, with infected thrombi extending directly into the lateral sinus.

J. Garland Sherrill: This topic, in which I have always been greatly interested, has been presented by Dr. Peabody in a most thorough and excellent manner. I remember seeing, with Dr. Pfingst many years ago, a child that was successfully operated upon for abscess of the brain, and I have seen others which were not successful. No condition that we are called upon to treat requires a greater degree of surgical judgment. The type of organism that is responsible for the infection is a more or less determining factor in the outcome of the case. Certain organisms are less virulent than others and it is very important, therefore, before deciding to operate on any suppurative lesion, in the mastoid or elsewhere, first to determine the type of infecting organism.

Another important thing is to determine the portal of entrance if you can. A larger number of brain abscesses are of otitic origin than one would suppose. During the past decade there was one year in which, in Great Britain alone, two thousand deaths occurred from brain lesions of otitic origin.

Very rarely do we see brain abscess in acute otitis media; it most frequently occurs in chronic cases which have been discharging for a long time. Then the discharge ceases, the mastoid fills up and brain abscess develops. Therefore, in my opinion, chronic mastoid disease should be attacked vigorously once it has been determined to operate. As an aid to the diagnosis of such conditions, we have the valuable aid of the X-rays which physicians of former years did not have at their command.

Another interesting phase of this discussion is the path taken from the infecting organism from the middle ear into the brain substance. Undoubtedly, thrombi in the sinuses with back pressure into the smaller sinuses and direct extension of the infection into the brain substance does occur. We know that an abscess may exist in the brain as long as fourteen or fifteen years, and very frequently in these cases there is a sub-normal rather than a high temperature, which is an important differential diagnostic point between brain and tumor meningitis.

The time to treat abscess of the brain is before it occurs. I do not say that every infected mastoid should be opened, but I do believe that in every case of pressure in the middle ear due to the presence of pus, the ear drum should be opened. Brain abscess will not result while the pressure is relieved and the ear is discharging. There are some men, of course, who operate on every infected mastoid, but I do not believe that is the practice of the profession as a whole. It is a condition which demands our best surgical and medical judgment to determine when to operate and when not to interfere.

R. Glen Spurling: There is no one method of treatment with which I am acquainted that is applicable to all cases of brain abscess. In the course of my comparatively short experience I have tried most of them and I have seen both good and bad results from the same method of treatment in different cases. There are certain basic principles which are, I believe, generally accepted.

In the first place, I do not believe that an acute brain abscess is ever a surgical problem. Let us consider, for a moment, just what is happening in the brain in the presence of an acute infection. The infectious process may be either widespread or fairly well localized. If localized, there is a tremendous reaction going on in the soft cerebral tissues surrounding the localized area, which we call encephalitis or cerebritis. During this stage surgical measures can only tend to spread the disease. On several occasions I have been misled into attempting to do something for patients during the acute stage, where it looked like a matter of necessity. I have always been chagrined by the results attending what I later realized to have been a foolhardy procedure from the start.

The acute stage may last from a few hours to several days or two or three weeks, depending upon the virulency of the organism and the resistance of the tissues. Sooner or later, however, most cases of brain abscess will progress to a sub-acute stage, in which the subsidence of the encephalitis is evidenced by a decreased febrile reaction. A spinal puncture during this stage will reveal that the polymorphonuclear leucocytes, always found in the spinal fluid in these cases, have changed to lymphocytes. As Dr. Peabody has pointed out, it is not wise to do too many spinal punctures because of the danger of spreading the infection. With the walling off of the inflammatory

process in the brain, the polys in the spinal fluid decrease and are replaced by lymphocytic cells. Even these cells disappear when the absess has become definitely encapsulated. Then is the time to consider surgical interference. In such cases I will wait as long as two or three weeks after the patient has become afebrile, provided the symptoms in the individual case justify it. In the case mentioned by Dr. Peabody in his paper, this child was becoming more and more dehydrated, with headache and defective speech, which was extremely disconcerting to the family and it was a real problem to keep them satisfied during the period of waiting. As it was, I operated in this case a little too soon. The temperature chart shows that after tapping the abscess the temperature shot up to 104° F., whereas if I had waited the proper time the temperature would not have risen perceptibly.

It may be asked why I did not put a drainage tube in this abscess. I do not drain any subacute abscess until simple tapping has failed to accomplish the desired result. During the subacute stage the walling off process is not densely fibrous; it is simply a layer of inflammatory reaction of a consistency not much different from that of ordinary brain tissue. When the pus is withdrawn the abscess wall immediately collapses and the walls stick together. I have seen cases cured after one tapping. In others, a cure has been effected after three or four separate tappings over a period of six or eight weeks. In most cases each time the abscess refills, the walls become thicker and more fibrous, the abscess finally progressing to the chronic stage in which the wall has become very dense and fibrous, after which tapping as a method of cure is at an end. Then we must resort to drainage and anything short of radical drainage is of little value. Dissect down upon the abscess, cutting it open, stitch the wall to the skin if possible and introduce a mushroom catheter to keep the entrance open until the wall marsupializes itself.

J. R. Peabody, (In closing) I wish to thank the members for their generous discussion and complimentary remarks.

There is no doubt that the surgical phase of this case was handled by Dr. Spurling with exceptional skill after he got into it. Also, while waiting for the acute stage to subside, there was a great deal to do in the way of supportive treatment and Dr. Palmer is to be complimented on the way he handled it, with glucose injections, etc.

This little girl had suffered with the earache for four days before any one saw her, and when I opened the ear the pus poured out under pressure. If this patient had been under observation from the beginning, I would have felt that a mistake had been made in not opening the ear drum earlier, and I believe it was during that period that the infection was carried into the brain by so-called retiograde thrombi. However, when I opened the antrum I had to chisel through hard bone and upon exposing the dura it looked perfectly healthy. The sinus wall was exposed and while it was well forward it was not diseased.

THE TREATMENT OF HIRSCHSPRUNG'S DISEASE*

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Giantism of the lower bowel appears in two forms, (1) congenital, and (2) acquired. The underlying pathology noted at exploration or necropsy is identical in the two types and one has the feeling that the mechanism by which each is produced is somewhat similiar, although no demonstrable obstruction has ever been proved in a case of Hirschsprung's disease.

The mechanism producing acquired megacolon is a stenosing lesion against which the peristaltic activity of the bowel drives intermittently and unsuccessfully with the result that the walls of the colon become hypertrophied and its capacity hugely increased by an enormous dilatation, with consequent retention of alvine discharges.

In 1929 I reported three cases of megacolon secondary to cancer of the lower sigmoid which were obviously produced by a gradual stenosis, but which were revealed at exploration to have resulted in a condition identical, from the pathological standpoint, with a congenital megacolon. The variety most frequently encountered and for which so many measures have been instituted, is commonly called idiophic congenital megacolon, or Hirschsprung's disease, or Mya's disease. It is of historical interest to note that although the former name is more constantly associated with this clinical entity, other writers are accredited with having first recognized it. For instance, Barrington-Ward who has reviewed this subject most completely in the British literature, credits Ruysch with having reported a case in the 17th Century, whereas Billard, in 1820, Parry in 1825, and Bright in 1837 are believed by other authors to have reported earlier cases. The first case reported in the United States is that of Lewitt noted in 1867, and since that time many complete reviews of this subject have appeared in the literature from time to time reporting many cases, making the entire number a relatively

*Read before the Jefferson County Medical Society.

large group. Finney's survey in 1908 reporting some observations of his own and 206 additional cases is one of the most complete, comprehensive studies which has appeared up to the present time.

The very fact that there is such a multiplicity of reasons advanced as to the underlying cause of Hirschsprung's disease testifies that the etiology is still not satisfactorily explained. In the search for a productive factor one finds theories as to the production of megacolon divided into several groups, the principal four being: first, congenital; second, obstructive; third, infective; and, fourth, neurogenic. These groups have much in common and the first two usually rely upon anatomic factors to explain the dilatation, hypertrophy, and elongation commonly noted at exploration, autopsy or examination by Roentgen ray.

The neurogenic processes which apparently are rapidly being proved to be the underlying causes of many, not all of these cases, are not clearly understood, but represent a type of derangement in the nervous mechanism of the large bowel which is remedied by relieving the "brake" through surgery of the sympathetic nervous system. The plausibility of a neurogenic factor producing the congenital variety of megacolon is further increased by a consideration of the nerve supply of the large bowel and rectum as well as by experimental data more recently accumulated.

Whether there are several factors which enter into the production of idiopathic giantism of the colon is unsolved, but there is a strong possibility. I feel, that some embryonic defect either in the motor mechanism of the bowel itself, or explained by an ectasia of the intestinal wall, or some congenital defect not demonstrable, results in the fundamental features of the disease.

Pathologically, Hirschsprung's description in 1886 of this disease as "a condition of congenital high-grade dilatation of the colon with thickening of all its tunics, especially the tunica muscularis, with retention of large quantities of fecal matter" has not been improved upon. The changes which are so characteristic of the disease may be either segmental or may include the entire length of the colon and rectum. More often than not at least one-half of the colon is involved in the process which generally starts just above the internal sphincter of the rectum. Occasionally one finds an isolated segment of the colon involved in either the right or the left half. The rectal sphincter keeps its tonus and no demonstrable obstruction at or above this location has ever been worked out. The dilatation is immense and the circumference of the bowel increased to huge proportions. Hawkins reported one case in which the circumstance of the affected part of bowel was 110 centimeters. The circular and longitudinal fibers of the muscle coats are usually thickened and hypertrophied, and the mesentery is elongated with increase in its blood vascular elements and usually a great deal of enlargement of the lymphatic chains. The thickness of the mesentery at its juncture with the bowel is characteristic. Microscopically, the picture of megacolon is constant, increased thickening of the submucosa coats, and few changes in the serosa.

SYMPTOMS

While megacolon is usually a disease of childhood, it has been reported as occurring from the seventh month of foetal life up to the 80th year. Its occurrence is three times as common in males as females and the symptoms are usually noticed immediately after birth, or as in 20 per cent of the cases, a few days or weeks later. Approximately 10 per cent of the cases show an onset of symptoms during late childhood on up to adult life. Those cases appearing in adult life usually are found to have been obstinately constipated and unrelieved by enemas and cathartics over a long period of time, frequently dating back to their infancy. The failure of a new-born infant to pass meconium is one of the earliest signs, and constipation to the point of obstipation accompanied by abdominal distention and other secondary changes is the usual picture in the cases developing later.

The typical pot-bellied child, with a huge circumferential measurement somewhat similar to that seen in rickets but lacking the skeletal changes of that disease, is a characteristic picture. The circular and xyphoid umbilical measurements are both affected and occasionally these little patients are larger around the middle than they are tall. The rib margins are flared out and the abdominal walls thin and covered with shiny glazed skin from the constant pressure. There is a separation of the rectus abdominis muscles and during peristalsis, loops of bowel may be visible. The intercostal angles are wide and obtuse, and borborygmus, explosive and distinctly audible, is one of the most marked signs.

This stubborn constipation, frequently associated with intermittent diarrhea, strangely enough never really causes vomiting and rarely goes on to acute obstruction, although toxic symptoms may result in emaciation and general malaise. The dry-skin, the dull feces, and the obtunded mentality which develops in these cases of long-standing give them a relatively characteristic facies. Sometimes the dilatation is so great as to cause pressure

which results in dyspnea, myocardial changes, and even progresses to the extent of producing a compression of the ureters.

The differential diagnosis is rarely difficult to make. A careful history, a general examination, and a roentgenogram establishes the diagnosis without difficulty and one need only consider rickets, tuberculous peritonitis, chronic ileus, and ovarian cysts in differentiation. The roentgenograms show the characteristic lesion even in small children.

SELECTION OF CASES FOR OPERATION

In the average case of Hirschsprung's disease in which medical treatment has been tried but proved inadequate, as it so frequently does, it is agreed by most surgeons that sympathectomy is warranted. Moreover, there is another type of case in which I have been recently very much interested, and for which I have done three operations on the sympathetic nervous system with satisfactory results which must be given consideration, namely, obstinate constipation in adults intractable to treatment. I realize that in selecting this group of cases for any surgical procedure, one must do so with great care and only after the most earnest consideration of the likelihood that an indiscriminate application of the operation will result in its being discredited.

So many operations have been done upon the colon in the past because they were technically possible and with scant consideration of the indications for their use that one hesitates to advocate even a complex operative maneuver because of the fear that it may be misapplied. However, I believe that there are certain cases of obstipation, largely of rectal origin, which remaining over a long period of time and in spite of vigorous attempts at medical treatment, have come to a state where huge doses of many kinds of cathartics are required for bowel evacuation, which should be subjected to this type of surgery.

Abstract. D. W. Female school teacher registered 6-11-34, age 34 years, family history not unusual. Menstrual history normal. Previous diseases: treated for diabetes for the past three years—mild case, easily controlled by diet.

Chief Complaint: obstinate constipation of many years' duration. Since 1926 patient has been becoming more and more constipated, began taking mineral oil at night, subsequently night and morning, and supplemented this with various kinds of cathartics. Has tried various kinds of diets in addition without satisfaction. Constipation is to the point of obstipation. Sometimes she goes as long as five days without having a bowel movement, and her routine bowel habit is one evacuation in two days with large doses of cathartics. Very little discomfort in abdomen. Stools soft, small, no diarrhea, blood, or mucus.

Present weight 128 pounds which is normal. Blood pressure, 100-60. Blood normal. Urine normal except for sugar 1 plus. X-ray report: "The colon is redundant and somewhat atonic and dilated. No evidence of an organic lesion."

After adequate preliminary decompression patient was explored and a markedly dilated and redundant colon was found, without any hypertrophy however, in its muscular coats. A resection of the inferior mesenteric and presacral nerves was done and a routine appendectomy.

Postoperative convalescence was normal and bowels moved on the fourth day in the hospital, with an enema, and on the fifth and sixth days there was a spontaneous evacuation without enema or cathartics.

With the exception of an occasional small dose of mineral oil, the patient had no other medication during hospitalization, and was dismissed on July 16, 1934. She has been kept on an anti-constipation diet and instructed to take small doses of mineral oil if bowels do not move regularly. Such a regime has proved entirely adequate. The last communication reports the patient to have a normal bowel habit with only an occasional dose of mineral oil, and to have resumed her normal life and duties as a school teacher.

In the other two cases of obstinate constipation for which this operation was done, the result was equally as gratifying. Both cases report regularly and with the exception of an occasional dose of mineral oil, and some dietary regime they both have normal bowel movements daily without the use of other drugs or enemas.

OPERATIVE CONSIDERATIONS

The old methods of treatment which consisted either of resection operations by one of several methods or side-tracking operations, were futile in the vast majority of cases. The mortality was high and the end-results left much to be desired even where there was some improvement. Consequently, the attack by either bilateral ganglionectomy and ramisection, or removal of the inferior mesenteric and presacral nerves immediately gained favor when it could be demonstrated that relief followed these procedures.

The extrinsic nerve supply of the colon is derived from two portions of the autonomic nervous system the sympathetic nerves which reach the wall of the bowel through the hypogastric and inferior mesenteric nerves, and the parasympathetic nerves

which enter via the pelvic nerves or nervi origentes. Consequently, this dual innervation by two different systems finds them opposed in their functions, the sympathetic nerves being inhibitory to the muscular coats of the bowel and motor to the internal anal sphincter, while the parasympathetic distribution through pelvic nerves is motor to the colon and inhibitory to the sphincter ani.

We are concerned mainly with the nerve supply of the left colon and rectum because the definite distribution of the nerve supply to the transverse colon and the right half has not been satisfactorily demonstrated.

The sympathetic nerves which pass to the distal part of the colon have for their immediate origin the mesenteric plexuses. These networks of nerves descend on the anterolateral aspects of the abdonimal aorta, from the level of the origin of the superior mesenteric artery downward. On each side there are two or three large trunks, which are made up of nonmyelinated fibers, arising from: (1) the semilunar ganglion and celiac plexus; (2) an anastomotic loop which crosses the aorta transversely below the origin of the superior mesenteric artery; and (3) the aorticorenal ganglion, or the renal periarterial plexus. These go to form the intermesenteric plexus which is joined on each side by branches from the first and second lumbar ganglia.

There is some difference of opinion among anatomists as to the extent to which the lumbar fibers join with the intermesenteric plexus, some holding that the lumbar communicating branches actually contribute to the intermesenteric plexus, while others think that they remain distinct in its outer part and ultimately form the lateral roots of the presacral nerve. There is a practical point in this because if the latter view is correct lumbar ramisection and ganglionectomy bilaterally would affect only that portion of the bowel innervated through the presacral nerve—namely, the rectum and internal sphincter, while if the former arrangement were true it would affect, but only partly the descending and sigmoid portions of the colon as well as the rectum and internal sphincter. The clinical results from this operation strongly favor the view that the branch which joins the intermesenteric plexus from the first and second lumbar ganglia does have a share in the innervation of the colon. In vertebrates the internal sphincter of the anus is innervated through the thoracic lumbar outflow, while in man there are two possible paths by which such fibers may reach the sphincter: (1) via the inferior mesenteric nerves and superior hæmorrhoidal branches and the branches from the hypogastric ganglia, and (2) by way of the presacral nerve which likewise is distributed through the hypogastric ganglia.

The presacral nerve is a complex element usually having three roots and lying in the angle between the common iliac arteries. It descends into the pelvis and at the level of the first sacral vertebra divides into the two hypogastric nerves. It is generally accepted that the fibers of the inferior mesenteric plexus which end in the musculature of the colon and rectum carry impulses which inhibit its activity, and it would appear probable that these nerves keep up a continuous influence on the tonus of this portion of the bowel. Section of these nerves in the dog always lead to an immediate increase in intracolonic pressure and it has been found in experiments on both dog and man that the thoracicolumbar outflow provides the motor supply for the internal sphincter muscle.

With this distribution of the nerves and their functions in mind, operation by section of them aims to diminish the dilatation of the colon by lessening the motor control and at the same time to relieve any spasticity and opposition offered by the internal sphincter muscle. The division of these nerves relaxes the motor control of the anal sphincter and relieves the inhibition of the left half of the colon and rectum.

Adequate preoperative preparation in dealing with megacolon is equally as important as when surgery is instituted for other organic lesions of the bowel. A thorough decompression of the bowel must be accomplished before surgery is undertaken not only because of the technical difficulty in the presence of a hugely dilated colon, but because of the influence of postoperative sequelae. Hospitalization over a term of days or weeks, if necessary, with evacuation of the colon and attention to the general nutrition of the patient, should be routine.

The selection of the type of operation, whether it be bilateral lumbar ganglionectomy and ramisection, or resection of the inferior mesenteric and presacral nerves, is a matter of individual choice with the surgeon. My own experience has been largely with the latter operation, the technique of which was reported by Learmonth and me in the Annals of Surgery in October, 1930, and consequently I am more inclined to its

use than the lumbar gangliectomy and ramisection.

Unquestionably, both operations have a field of usefulness and perhaps better results will subsequently be obtained by their proper coordination or by some modification which utilizes the good points of each. Adson has recently advocated the bilateral sympathetic gangliectomy and trunk resection plus the removal of the presacral nerve, an operation which he has performed on a small series with satisfactory end-results.

Lack of space compels the elimination of the technical details of the two operations which have been so frequently described.

There are certain postoperative changes such as vasodilatation in the lower extremities and organs robbed of their sympathetic nerve supply, which have not proved detrimental and may be disregarded. In the extirpation of the presacral nerve in man there is a paralysis of the mechanism of ejaculation of seminal and prostatic fluid, but no disturbance of libido and potency. There is no effect on the sexual organs of women after resection of the sympathetic nerves.

Comment

This epitomizes an experience with operations on the sympathetic nervous system employed in 10 cases, 7 of which were for congenital idiopathic Hirschsprung's disease and 3 for constipation of the obstipation variety. The youngest of these cases suffering from Hirschsprung's disease was 2 years of age, the oldest was 28. The fact that this case, the oldest in the series operated upon for congenital idiopathic megacolon, received less beneficial results than the younger individuals, offers several interesting hypotheses, the most important of which I feel must be the bad bowel habit as well as the long-standing influence of the sympathetic nervous system. We graded this patient's improvement at 50 per cent, and none of the others in the series were felt to have received less than 75 per cent good results, some being graded as high as 100 per cent.

The three cases having obstipation for which this operation was done were 23, 32, and 34 years of age respectively. The time at which operation should be instituted in the Hirschsprung type is not an unimportant consideration; the youngest case in our series as noted was 2 years. However, Adson has recently reported a case successfully operated upon at the age of 5½ months. I should be inclined to disagree with him as to the propriety of instituting this formidable operation before the age of at least 5 years unless there was a very strong indication for it. I believe that either 5 or 6 years of age is the optimum time because of the increased safety factors in young individuals and in addition because apparently the older cases of Hirschsprung's disease give less satisfactory end-results after operation.

It is emphasized that when the operation is instituted for intractable constipation, it should be undertaken only when the severity of the symptoms is most marked and other types of treatment have been tried to no avail. Our experience in this series of cases seems to warrant the assertion that this type of operation yields superior results to other surgical measures formerly instituted for relief of megacolon and with a lower mortality and a shorter period of hospitalization.

UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE AND LOUISVILLE CITY HOSPITAL*

R. A. Griswold, M. D., F. A. C. S.

Louisville

I wish to speak tonight of the University of Louisville School of Medicine, its relationship to the Louisville City Hospital, and the work which these two institutions carry out for the City of Louisville. The University of Louisville is a municipal school, receives by law 5 to 7 mills of the taxes collected by the city, but this amount covers not more than 35 per cent of the total cost of the running expenses of the institution. The remainder has to be made up from endowments, donations and student fees. This University which began with the School of Medicine in 1837 has added during the succeeding years, the School of Law in 1846; the College of Liberal Arts in 1907; the School of Dentistry in 1918; the Speed Scientific School in 1924 and the School of Music in 1932. The enrollment for the entire University is around 1800 students. The University of Louisville School of Medicine is the oldest municipal school in the United States, and the oldest medical school west of the Alleghenies. It has had an illustrious past, and its graduates have played a prominent part in advancing medical science to its present position. The original building for the old Louisville Medical Institute was located at 8th and Chestnut. Following the merger of the various schools in 1908, the

*Presented over Radio Station WAVE July 8, 1935, on the program of the University of Louisville Alumni.

building occupied by the Louisville Medical College, located at 1st and Chestnut, was salvaged and used for the teaching of preclinical years. At present an addition of a wing of four stories to this building is being constructed. The plans for the new construction embrace mainly, offices, research space for the preclinical teachers and library space which is badly needed. The minimum requirements for admission to the School is 60 semester hours of collegiate work as fixed by the Association of American Medical Colleges. The usual enrollment for the school is around 346.

The faculty at present consists of 127 members, 17 of whom are on a full-time salaried basis and do not do any outside work. There are several part-time teachers. More than $40,000 is paid annually in salaries by the University to the full-time and part-time members of the medical, surgical, obstetrical, pediatric and pathological departments, as well as to the interne staff of the Louisville City Hospital. The remainder of the faculty give their time without recompense to the teaching of medical students and the treatment of patients under medical school supervision in the various municipal charitable institutions. This clinical faculty includes the most outstanding and representative physicians and surgeons of Louisville in the various specialties. In recent years the Medical School has felt a dual responsibility in using its faculty not only to train physicians, but also to protect the health of the citizens of Louisville and to treat the indigent sick. In 1922 an agreement was made between the City Fathers and Board of Trustees of the University of Louisville, whereby the professional side of the Louisville City Hospital was placed entirely under the direction of the School of Medicine, making the faculty of the school the staff of the hospital. Previous to this agreement, the faculty of the Medical School was appointed to serve in the hospital only during the school year; during the summer months other appointments were made by the Board of Public Safety to care for the sick. This condition prevented proper teaching of internes, and also made it impossible to carry on efficiently the very extensive services required in the different departments of the hospital concerned directly with the treatment of patients. The present agreement between the City and the University precludes political interference with the professional care of patients and in safeguarding the health of the citizens. Since the non-professional departments of the City Hospital are, however, under direct political control, there is a complete turnover in these departments with each change of administration. This leads to great inefficiency from several standpoints. In the first place, even nonprofessional hospital personnel such as orderlies, ambulance drivers, clerical force and even scrub women should have some knowledge of the handling and contact with the sick and injured people and their relatives. An untrained orderly who improperly lifts an injured patient from a stretcher to a bed may cause serious damage and even death. Even if properly trained nonprofessional personnel were supplied, the complete turnover with each change of administration disrupts the entire hospital for a period of a year or more. This confusion not only makes the treatment of patients more difficult and inefficient, but sometimes may have tragic consequences. It is to be hoped that in the near future this institution can be removed from partisan politics and be put under some sort of control which will insure efficient continuity of administration.

The present hospital is a charitable institution of 400 beds, built in 1915 by the city, at a cost of one million dollars. All of the various services for teaching, together with the offices for the full-time clinical staff are housed in this hospital. In 1932 a similar affiliation was made with the Children's Free Hospital (75 beds), having facilities for medical, surgical and orthopedic cases. This hospital is just across the street from the Louisville City Hospital which makes an ideal arrangement for the distribution of cases between the two institutions. In 1932 the Psychological Clinic which had been conducted by the Community Chest for about ten years, was taken over by the Psychiatric Department of the School of Medicine. This clinic is now known as the Mental Hygiene Clinic and is housed on the grounds of the Children's Free Hospital. In 1932 the Department of Public Health and Bacteriology of the Medical School assumed control of the department of contagious diseases of the City Health Office of Louisville and in 1934 it took over the city's department of bacteriology. Such agreements not only preclude political interference in the vital measures of our city, but they offer ample and first-hand teaching material for the department. In 1930 teaching affiliations were made with Waverly Hills Tuberculosis Sanatorium. This institution is a charitable one, recently built, with a bed capacity of 440. It is located some seven miles outside of the city and students live there when assigned to that service. It will be seen, therefore, that the University of Louisville School of Medicine, through its affiliations

has 915 beds and 150,000 dispensary cases for teaching purposes.

Few citizens of Louisville realize the enormous amount of charity medical and surgical work which is carried on by the faculty of the School of Medicine, most of whom serve without any pay in the City Hospital and its subsidiary clinics which include the Highland Park Health Center, the Portland Health Center and the Colored Health Center, recently opened on West Chestnut Street. As a matter of fact the City Hospital furnishes only a place and facilities for the treatment of patients. All actual medical and surgical care is given by the School of Medicine through its faculty members without recompense from the City Hospital. In addition $40,000 per year is paid in salaries to members of the staff of the City Hospital by the University. The volume of work carried on has increased enormously during the past few years, not only because of the growth of the city, but on account of the recent economic conditions. In 1919-20, 82,349 bed days of treatment were given in the hospital. In 1933-34, 150,236 bed days of treatment were given. In the same period emergency visits had increased from 1,742 to 20,590. This means that in the small emergency room available, one patient is treated every 25 minutes, day and night. Clinic visits have increased from a total of 69,832 to 156,843. About 12,000 patients a year are admitted for bed treatment and over 1300 babies are born in the hospital each year. About 4,000 operations are performed yearly in Surgery. The present hospital equipment is twenty years old. Replacement of obsolete and worn out equipment and purchase of new equipment made necessary by the rapidly increasing strides of medical and surgical science have been kept to a minimum under political control. The present hospital is entirely inadequate to care for the rapidly increasing volume of work. Wards which were built, equipped and staffed for 30 patients sometimes contain as many as seventy patients. Such things as modern operating tables, lights and other equipment are entirely inadequate.

The most crying need for improvement, however, is not in the wards but in the outpatient department and accident ward setup. The out-patient department has grown to such proportions, both as to number of patients and amount of work involved, necessitating, of course, an increase in staff, that an immediate need of space is being acutely felt. This department is housed at present in the basement of the hospital in a space which is neither properly arranged, nor large enough for the work. The hospital clinic offices are crowded to capacity all the time they are open. The eight daily clinics keep the basement halls filled with long lines of patients, sometimes extending out Floyd Street to Chestnut. A separate clinic building has been planned for years on the space adjoining the hospital on the west. It is hoped that this can finally be built with the aid of federal funds, since the present crowded conditions absolutely prohibit proper examination and treatment of even seriously ill patients and there is constant risk of unnecessary tragedies. The proposed new buildings will contain the most modern facilities for the care of such injuries and diseases as can be handled in the dispensary. It will also leave room in the basement of the present building for increased facilities for the large number of accident cases. Automobile accidents are constantly increasing and constitute one of the heaviest loads which the hospital has to carry. The present facilities for taking care of these cases, most of whom have serious fractures are entirely inadequate. In the new set-up a complete fracture department and fracture ward will be placed in the basement of the hospital, so that these seriously injured patients will require only a minimum of moving. Not only the treatment of patients, but the teaching of students, most of whom will eventually practice in, or close to, Louisville will be greatly improved and there will be a far-reaching effect on all medical and surgical practice in this vicinity in years to come.

It is hoped that along with these proposed facilities at the City Hospital, increased opportunity and support for research work will be contributed by the University. A University should perform the dual functions of teaching and through its faculty of advancing knowledge by research in various lines. It is only by increasing its facilities and support for investigative work that the University of Louisville can maintain its position and draw and hold progressive men on its faculty. Funds available for research work are at present so meager in the clinical branches that much investigative work must be abandoned or delayed, and projects, such as the development of new apparatus and equipment must be turned over to, and financially supported by, commercial or semi-commercial organizations. Medical research is almost the only type of investigative work in which universities are still pre-eminent, but already, much of the best work now being carried on, is being done by commercial institutions, such as drug houses or non-teaching foundations. I hope that universities can maintain their pre-eminence in medical research and not come to the con-

dition in which many scientific schools now find themselves. In many fields of science, the best research is carried on, not by a university, but by commercial organizations, such as the great electrical and automotive corporations. Such conditions draw the best men away from teaching and have an inevitable effect upon education. The large amount of information which must be absorbed by a medical student in his four year course demands that his teachers must be the best and most progressive men in their fields, and that they must be in the forefront of scientific advancement since medical science is advancing so rapidly that the research problem of today is the accepted practice of next year when our present students will be practicing.

I hope that this short sketch of the School of Medicine and the City Hospital has given you some idea of the work, functions and needs of these institutions.

BOOK REVIEW

GYNECOLOGY by Brook M. Anspach, M. D., Professor of Gynecology, Jefferson Medical College. Fifth Edition, reillustrated, reset and completely revised by the author with the assistance of Philp F. Williams, M. D., Assistant Professor of Obstetrics, School of Medicine, University of Pennsylvania, and Lewis C. Scheffey, M. D., Assistant Professor of Gynecology, Jefferson Medical College. 679 illustrations of which 10 are in colors.

J. B. Lippencott Company, publishers, Philadelphia, London and Montreal. Price $9.00.

Medical textbooks vary greatly in literary style and construction; thus, one embodies the complete individuality of the author, as exemplified by his daily clinical work, but scant reference being made to the literature contributing to his subject; another offers a digest of a vast bibliography, more or less well selected, depending on the competency of the author to act as a judge, and endeavors to feature the cardinal points that he considers worthy of imitation. Such textbooks, however, evidence, on the one hand, a lack of judicial balance, and, on the other, an absence of a well-defined hall-mark stamped by the writer's own experience. Still a third author, as represented by Dr Anspach, selects his literary references with great care and, combining these with the observations gathered from his matured experience, he constructs a well-balanced textbook.

In Dr. Anspachs' treatise on Gynecology ample reference is made to epochmaking and constructive contributions, but his text is so well arranged as to make it devoid of encyclopædic dullness. Painstaking care has been devoted to the elucidation of all the basic factors in embryology, anatomy, and physiology, variations from which mark abnormal morphology, and morbid physical changes that lead to the many functional disturbances observed in gynecologic practice.

It is a common observation among teachers in our medical schools that students well drilled in the cardinal branches of the first two years, all too frequently approach the clinical problems of the last two years so deficient in this fundamental knowledge as to make its translation into practical medicine of little or no value. To bridge this hiatus between the scientific and the clinical domain Doctor Anspach has drawn from the newest, as well as from the classic, sources of information, the specialized and general facts that will freshen up and adapt the student's mind for the fullest comprehension of gynecologic problems..

From the chapters of Embryology, Developmental Anomalies, Anatomy, and Physiology the reader is carried logically forward into the intricacies of anamnesis, physical examination, and laboratory investigations, these chapters being so closely correlated as to develop the deductive powers of the student, making of him a well-poised diagnostician, rather than the slave of a memorized symptomatology that, when the atypical case is encountered inevitably leads him into a quagmire of doubt.

When the chapters on the practice of gynecology are reached, all the capital procedures that have found a stable setting in practice are considered, and usually more than one method is offered for the reader's selection.

A most instructive chapter is that devoted to the hygiene and proper care of adolescent girls, a subject that, because of its ultimate influence upon the welfare of the adult woman, is of far-reaching importance. All too frequently of late gynecologic text-books are so crammed with surgical therapeutics as largely to exclude prophylactic measures and immediate medical and hygienic treatment.

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NEXT MEETING LOUISVILLE
September 30, October 1, 2, 3. 1935

COUNTY SOCIETY REPORTS

Grant: The Grant County Medical Society met at the usual hour, July 17th, 1935, at the office of the Health Department at Williamstown, with the following members present:

Drs. A. D. Blaine, N. H. Ellis, J. T. Davis and C. A. Eckler.

Minutes of the last two meetings were read and approved and there being no business of importance, we entered into the round-table discussion and report of individual cases, making a very interesting program. We could not help but feel the missing links of our sick brothers, Dr. J. W. Abernathy and Dr. C. M. Eckler, but were happy to feel they were convalescing and will soon be returned to our fold.

We took up the subject of "Appendicitist" and discussed it from all angles, stressing the seriousness of this malady and realizing the necessity of quick action in acute cases; several most interesting cases were reported.

As Secretary, I feel the necessity to urge members to attend these sessions, even though the weather is warm, we must keep up the interest by our monthly meetings.

Topic for next meeting will be "Summer Diarrheas in Children." Discussion opened by Dr. R. E. Kinsey.

We now adjourned to meet at the regular time in August.

C. A. ECKLER, M. D., Secretary.

Jefferson: The Jefferson County Medical Society reconvened after a summer vacation on Monday, September 16, with the following program:

Address by Daniel C. Elkins, M. D., Professor Surgery, Emory University, Atlanta, Ga. His subject was Treatment of Burns.

The Society lost two members during the summer, J. T. Hulskamp, M. D., August 24, 1935, and J. Mason Morris, M. D., July 21, 1935.

The applicants for membership were F. H. Mayfield, M. D., 404 Brown Building, graduate of the Medical College of Virginia, 1931, and J. E. Winter, 714 Heyburn Bldg., graduate of the University of Louisville 1923 (reinstatement).

Jefferson County Medical Society will be host to the meeting of the Kentucky State Medical Association September 30-October 3, 1935.

W. H. SMITH, Secretary.

Beechhurst Sanitarium

For the Treatment of
Nervous and Mental Diseases
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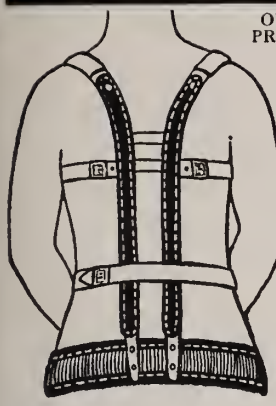


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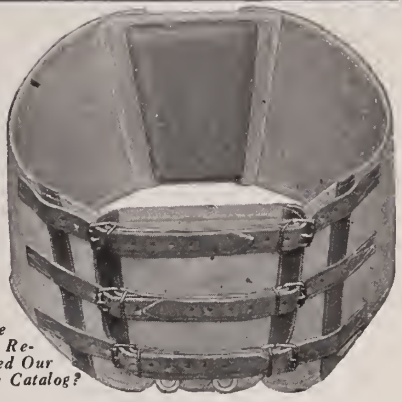
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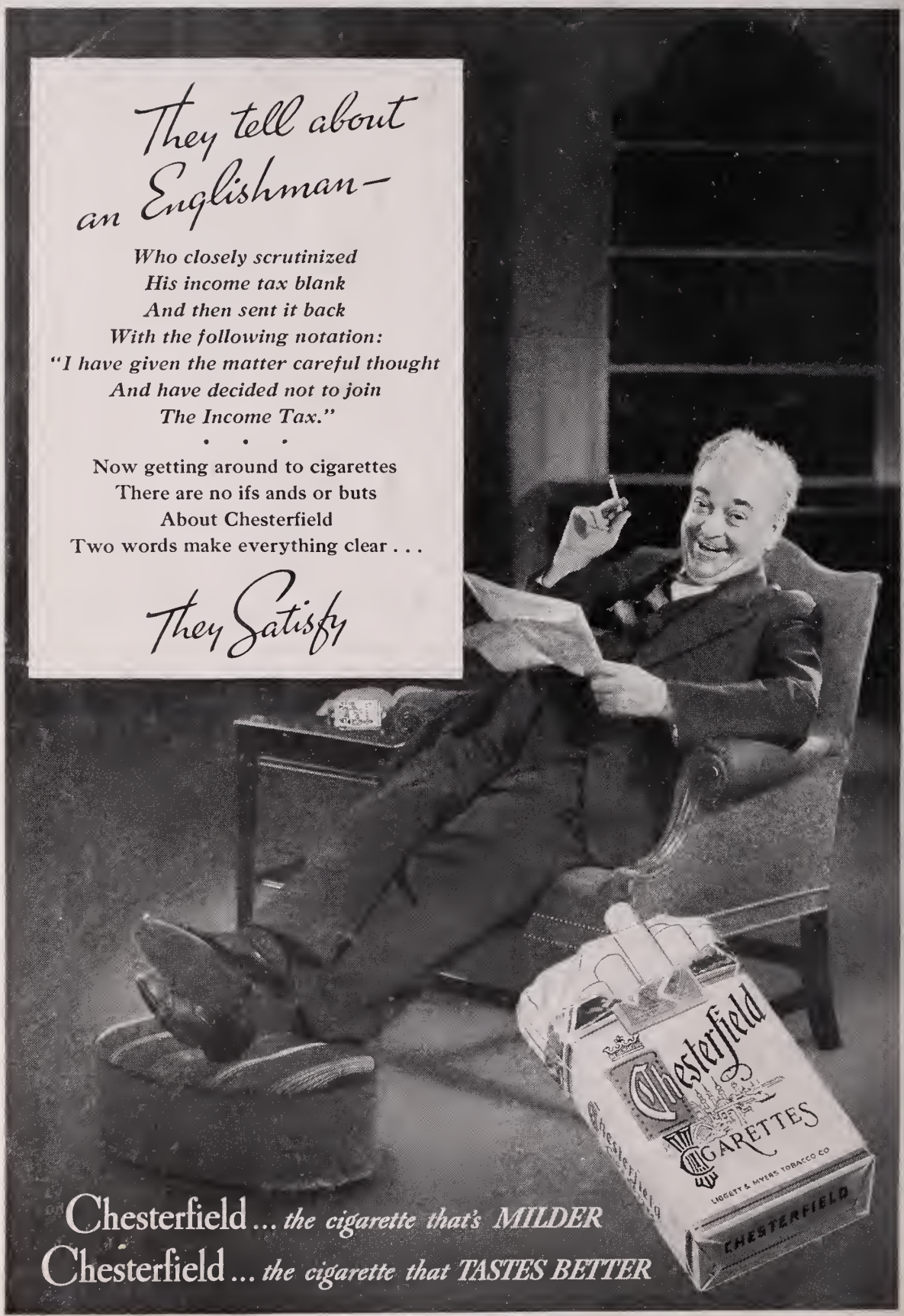
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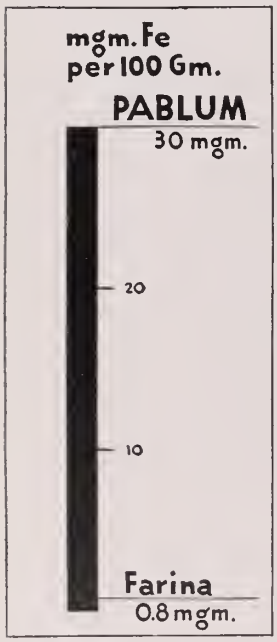
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CANNED FOOD IN INFANT NUTRITION

II. Strained Foods

● During the first few months of life, breast milk or modified cow's milk, properly supplemented, is the major article of food in the infant dietary. In later infancy and early childhood, however, it is desirable that other foods be included to supply the increasing demand for food essentials in which the milk diet is inherently deficient.

Modern practices in infant nutrition, while similar in broad aspect, may differ in detail. The first addition to the supplement milk diet is usually that of cereals or cereal broths. Later, strained vegetables and fruits, valued for their contributions of iron and cellulose materials, are included. Finally, other foods, such as egg yolk, broths and soups, are added to the dietary at the discretion of the physician.

Especially designed and well suited for use in this phase of infant nutrition are the canned strained foods. Manufacturers of such products are mindful of the fact that the highest possible standards as to quality and food values must be maintained—that endorsement or acceptance of these products by the profession can be obtained only after actual trial. Consequently, precautions are taken in the commercial procedures to retain in as high degree as possible the quality characteristics and nutritive values of the raw products used.

Only selected materials at the proper degree of maturity enter into the manufacture of commercially strained foods. Within a few hours of harvesting, the raw products are subjected to preparatory operations such as cleansing, peeling or trimming. After preliminary heat treatments, the materials are strained through screens whose interstices are measured in the thousandths of an inch; filled into cans and the cans sealed, heat processed and cooled.

In the canning procedure a number of factors are favorable to the retention of certain fugitive food values. Among these may be included the use of selected, properly matured raw stock; the rapid handling of the harvested crop; the use of steam or a limited amount of water in preliminary cooking operations; the exclusion of air during pre-cooking and straining; the straining of the foods in the liquid in which they were cooked; and the heat processing in sealed containers from which most of the atmospheric oxygen has been removed.

Research has demonstrated that these factors operate effectively in the retention in high degree of food values in the canned strained products (1). Consequently, commercially strained foods or food combinations—readily available on every market—deserve a high place among foods adapted to infant and child feeding, not only from the standpoints of economy and convenience, but by virtue of their nutritive values as well.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) Journal Nutrition 8, 449 (1934)
Journal American Dietetic Association 9, 295 (1933)
Journal Pediatrics 6, 749 (1932)

This is the sixth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



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Drug Addiction
Senility

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Waukesha, Wis.

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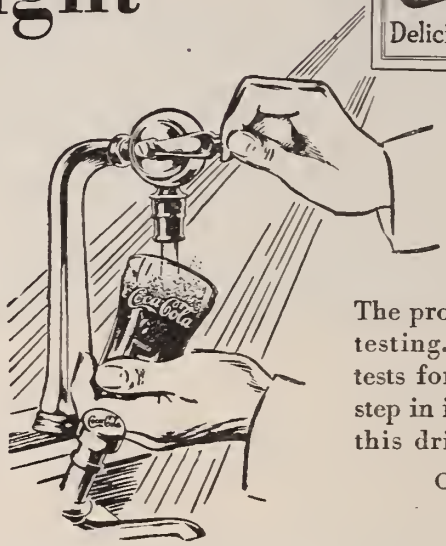
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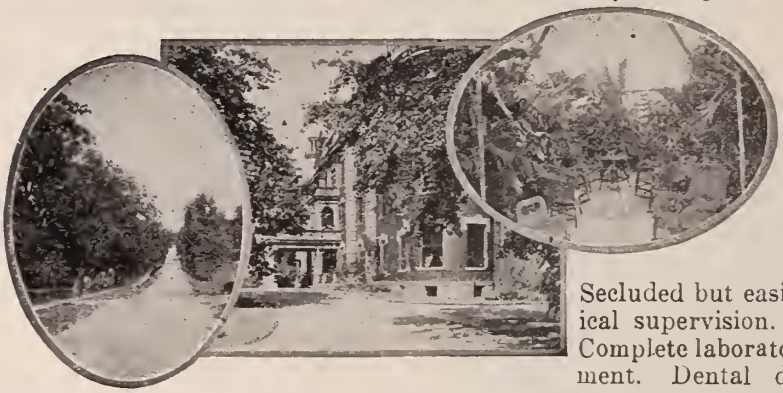
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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Adair	N. A. Marcer	Columbia	November 6
Allen	A. O. Miller	Petroleum	November 27
Anderson	J. B. Lyon	Lawrenceburg	November 4
Ballard	F. H. Russell	Wickliffe	November —
Barren	Paul S. York	Glasgow	November 20
Bath	H. S. Gilmore	Owingsville	November 11
Bell	R. F. Porter	Middlesboro	November 8
Boone	R. E. Ryle	Walton	November 20
Bourbon	W. B. Hopkins	Paris	November 21
Boyd	R. G. Culley	Ashland	November 5
Boyle	P. C. Sanders	Danville	November 12
Bracken	J. M. Stevenson	Brooksville	November 4
Breathitt	Frank K. Sewell	Jackson	November 19
Breckinridge	J. E. Kincheloe	Hardinsburg	November —
Bullitt	S. H. Ridgeway	Shepherdsville	November —
Butler	G. E. Embry	Morgantown	November 6
Caldwell	W. L. Casb	Princeton	November 5
Calloway	W. H. Graves	Murray	November 7
Campbell-Kenton	Luther Bach	Bellevue	November 7-21
Carlisle	J. F. Dunn	Arlington	November 5
Carroll	J. M. Ryan	Carrollton	November —
Carter	W. S. Hawn	Grayson	November 12
Casey	Wm. J. Sweeney	Liberty	November 28
Christian	M. A. Gilmore	Hopkinsville	November 19
Clark	R. E. Strode	Winchester	November 15
Clay	J. L. Anderson	Manchester	November —
Clinton	S. F. Stephenson	Albany	November 16
Crittendon	C. G. Moreland	Marion	November 11
Cumberland	W. F. Owsley	Burkesville	November 6
Daviess	I. A. Thorpe	Owensboro	November 12-26
Elliott	W. H. Joyner, Act. Sec.	Sandy Hook	
Estill			November 13
Fayette	John Harvey	Lexington	November 12
Fleming	C. W. Christine	Flemingsburg	November 13
Floyd	J. G. Archer	Allen	November 27
Franklin	W. S. Snyder, Jr.	Frankfort	November 7
Fulton	J. C. Morrison	Hickman	November 13
Gallatin	J. M. Stallard	Sparta	November 21
Garrard	J. E. Edwards	Lancaster	November 21
Grant	C. A. Eckler	Dry Ridge	November 20
Graves	H. H. Hunt	Mayfield	November 5
Grayson	C. F. Blankenship	Leitchfield	November 28
Green	S. J. Simmons	Greensburg	November 4
Greenup	C. W. Monroe	Greenup	November 8
Hancock	F. M. Griffin	Hawesville	November 4
Hardin	D. E. McClure	Elizabethtown	November 14
Harlan	W. R. Parks	Harlan	November 16
Harrison	W. B. Moore	Cynthiana	November 4
Hart	S. F. Richardson	Munfordville	November 5
Henderson	Walter O'Nan	Henderson	November 11-25
Henry	Owen Carroll	New Castle	November 25
Hickman	Chas. Hunt	Clinton	November 7
Hopkins	David L. Salman	Madisonville	November 7
Jackson			November 2
Jefferson	Uley H. Smith		November 4-18
Jessamine	J. A. VanArsdall	Nicholasville	November 21
Johnson	P. B. Hall	Paintsville	November 9
Knott	M. F. Kelley	Hindman	November 23
Knox	T. R. Davis	Barbourville	November 22
Larue	D. W. Gaddie	Hodgenville	November —
Laurel	Oscar D. Brock	London	November 13
Lawrence	W. C. Gose	Louisa	November 18
Lee	W. D. McCullom	Beattyville	November 9
Leslie	John H. Kooser	Hyden	November —
Letcher	R. Dow Collins	Whitesburg	November 26
Lewis	J. D. Liles	Vanceburg	November 18
Lincoln	Lewis J. Jones	Houstonville	November 15
Livingston	Wm. C. Davis	Salem	November —
Logan	Walter Byrne, Jr.	Russellville	November —
Lyon	H. H. Woodson	Eddyville	November 5
McCracken	Leon Higdon	Paducah	November 27
McCreary	R. M. Smith	Stearns	November 4
McLean	G. L. Thompson	Calhoun	November 14
Madison	Lewis C. Coleman	Richmond	November 21

COUNTY	SECRETARY	RESIDENCE	DATE	1935
Marion	W. A. Risteen	Lebanon	November	—
Marshall	S. L. Henson	Benton	November	20
Mason	O. M. Goodloe	Maysville	November	13
Meade	A. A. Baxter	Brandenburg	November	28
Menefee	E. T. Riley	Frenchburg	November	—
Mercer	J. Tom Price	Harrodsburg	November	12
Metcalfe	E. S. Dunham	Edmonton	November	—
Monroe	P. W. Busbong	Tompkinsville	November	—
Montgomery	D. H. Bush	Mt. Sterling	November	12
Morgan	W. H. Wheeler	Betsy Sayne	November	—
Muhlenberg	E. L. Gates	Greenville	November	12
Nelson	R. H. Greenwell	Bardstown	November	—
Nicholas	T. P. Scott	Carlisle	November	18
Ohio	Oscar Allen	McHenry	November	6
Oldham	S. J. Smock	LaGrange	November	5
Owen	K. S. McBee	Owenton	November	7
Owsley	D. E. Wilder	Booneville	November	4
Pendleton	W. A. McKenney	Falmouth	November	13
Perry	R. L. Collins	Hazard	November	11
Pike	D. Flanary	Pikeville	November	4
Powell	W. Johnson	Stanton	November	4
Pulaski	M. C. Spradlin	Somerset	November	14
Robertson			November	18
Rockcastle	Lee Chestnut	Mount Vernon	November	—
Rowan	A. W. Adkins	Morehead	November	11
Russell	J. B. Scholl	Jabez	November	11
Scott	F. W. Caudill	Georgetown	November	7
Shelby	W. E. Morris	Shelbyville	November	21
Simpson	N. C. Witt	Franklin	November	13
Spencer				
Taylor	W. B. Atkinson	Campbellsville	November	7
Todd	B. E. Boone, Jr.	Elkton	November	6
Trigg	H. L. Wallace	Cadiz	November	27
Trimble	J. J. Gerkins	Bedford		
Union	D. C. Donan	Morganfield	November	27
Warren	Hal Neal	Bowling Green	November	13
Washington	J. H. Hopper	Willisburg	November	20
Wayne	R. E. Teague	Monticello	November	—
Webster	C. M. Smith	Dixon	November	29
Whitley	C. A. Moss	Williamsburg	November	7
Wolfe	G. M. Center	Campton	November	4
Woodford	Chas. F. Voigt	Midway	November	7

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ST. LOUIS, MO.
November 19-22

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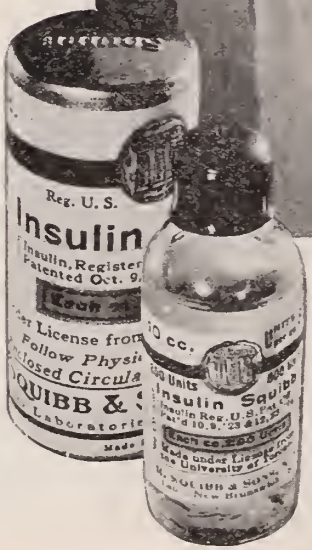
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EVERY PHYSICIAN IN THE SOUTH who is a member of his state and county medical societies can be and should be a member of the Southern Medical Association. The annual dues of $4.00 include the Association's own Journal each month, the Southern Medical Journal — the equal of any, better than many.

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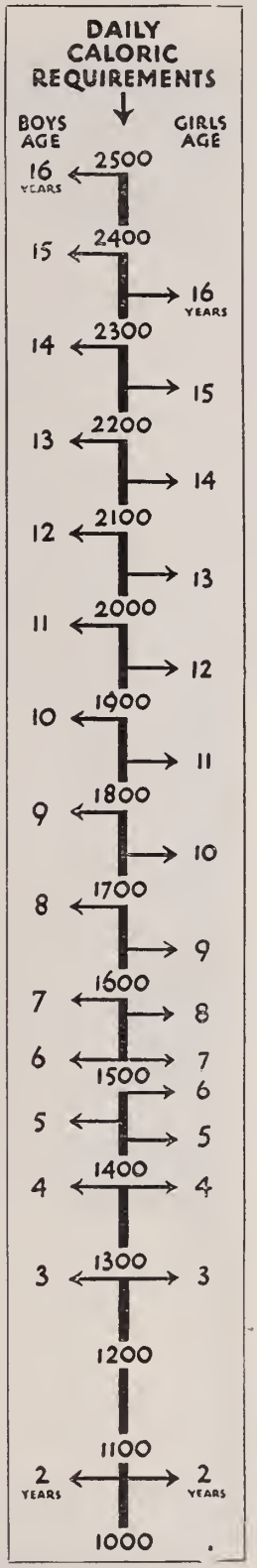
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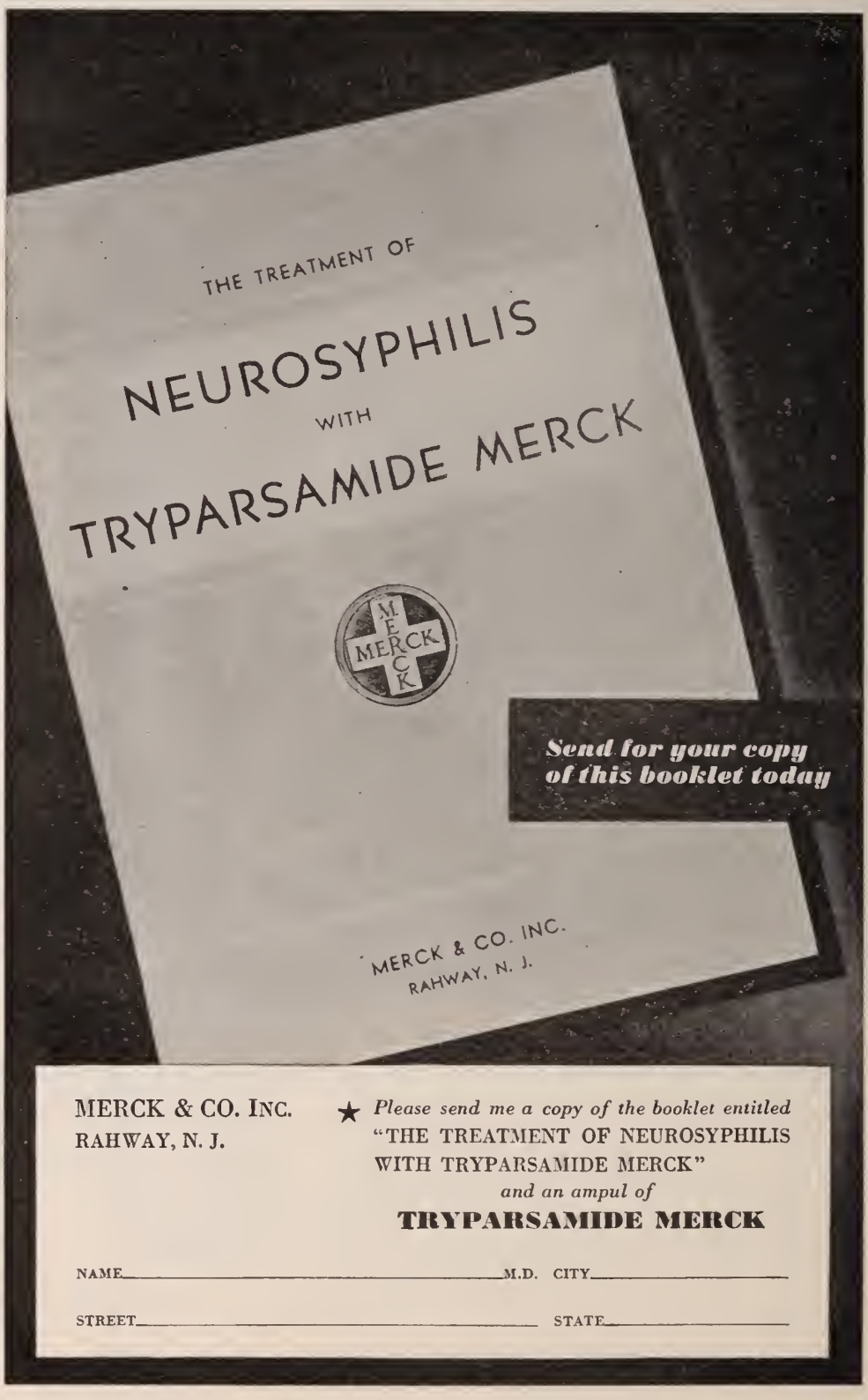
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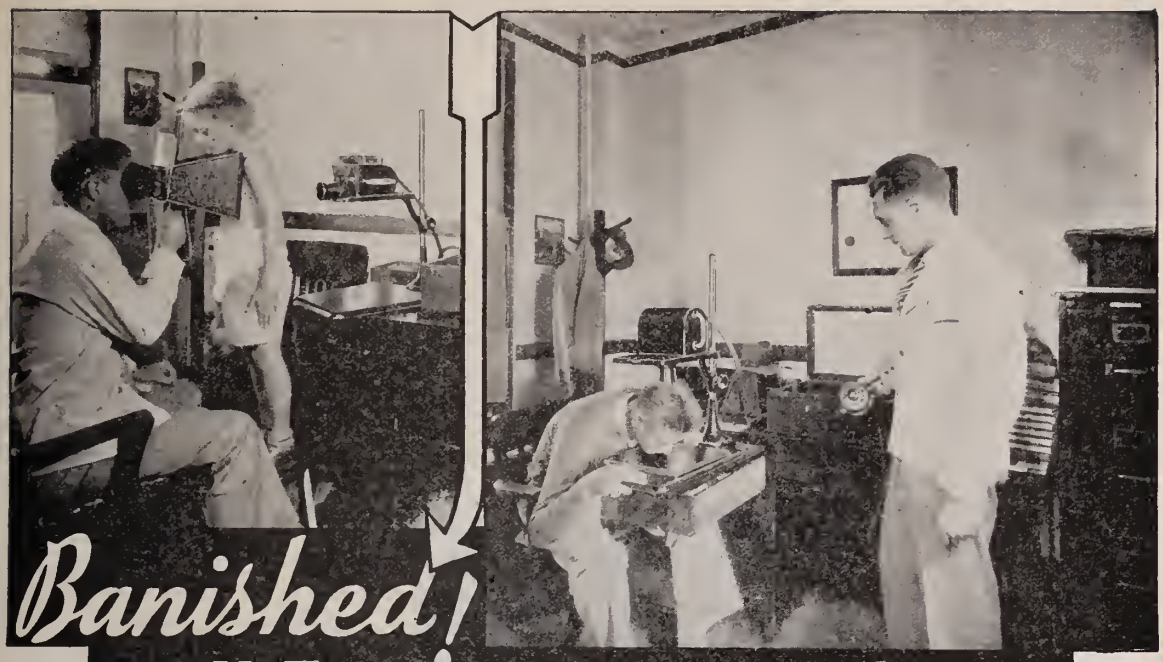


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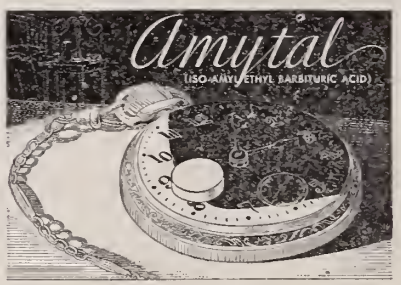
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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. 33 NO. 11 BOWLING GREEN, KY. NOVEMBER, 1935

THE STATE MEETING

The recent session of the Kentucky State Medical Association, at the Brown Hotel, under the presidency of Dr. C. C. Howard, was not only the biggest but the best meeting in the eighty-four years of its honorable history. Eight hundred and forty-three members were registered. Besides this, we had a great many visitors from other states.

The sessions of the House of Delegates were full of interest. We trust every reader of the JOURNAL will read the Minutes which are published on other pages of this issue. We desire especially to emphasize the reports of the Council, the Committee on Public Relations and the Committee on Medical Economics, but every page of the proceedings is of interest.

The first session of the House of Delegates was presided over by Dr. C. C. Howard, the retiring president, who has earned the gratitude of the Association for one of the most successful administrations in its history.

The Scientific Session, under the presidency of Dr. J. B. Lukins, provided a complete post-graduate course in modern medicine. The papers and discussions will be published in subsequent numbers.

The Address of the President by Dr. J. B. Lukins, the Oration in Medicine by Dr. J. H. Pritchett, and the Oration in Surgery by S. C. Smith, are published in this issue and are of real value.

The Woman's Auxiliary, under the presidency of Mrs. J. I. Greenwell, had a large attendance and its Minutes to be published in its January Supplement to the JOURNAL, should be read by every woman who is related to a Kentucky physician.

The Jefferson County Medical Society entertained the Association lavishly. The Golf Tournament was a success. The scientific contributions of Dr. E. C. Rosenow on Poliomyelitis and Dr. S. L. Koch on Injuries of the Hand would have made the session notable had there been no other program. These two distinguished visitors were elected honorary life members of the Association.

At the closing session Dr. J. D. Northcutt was unanimously elected President-Elect. Dr. Northcutt's name was presented by the Campbell-Kenton County Medical Society and the physicians of Eastern Kentucky. His elevation to the Presidency was a recognition of many years of fine professional service.

Thus, another milepost in the history of medicine in Kentucky has been passed. We are beginning a new year. It is important that the meetings of the county societies be held with even greater regularity than ever before. The Proceedings of the House of Delegates should be reported to each county society and discussed by them. It is only by keeping in touch with the action of the State organization that we can all work together harmoniously toward the one end of giving better service to the public and better opportunity to the profession.

THE McDOWELL HOME

Our members will read with especial interest the report of the Committee on the McDowell Memorial presented by its chairman, Dr. Abell. Since this report was made the Federal Public Works Administration has tentatively granted an allotment of $18,500 for the restoration of the home provided it is purchased, as recommended by Dr. Abell's committee, and turned over to the State Park Commission, of which Mrs. Cromwell is the executive. This must be done immediately if it is to be carried through successfully. Suggestions and donations for raising the $10,000 for the purchase of the home will be received by Dr. Abell. The State Medical Association made an appropriation of $1,000 to start the fund. Let's put this over right!

ST. LOUIS MEDICAL SOCIETY INVITES SOUTHERN PHYSICIANS

The 29th Annual Meeting of the Southern Medical Association, the second largest medical organization in the United States, will be held in St. Louis, November 19-22.

The unusual clinical facilities of the two medical schools and the numerous hospitals, combined with the high standing of the medical profession, and the excellent hotel accommodations make St. Louis an ideal city for this medical gathering.

Addresses and papers will be presented by distinguished clinicians, not only from the South, but from all over the United States as well as from several foreign countries.

The St. Louis Medical Society extends a

very cordial invitation to all physicians in good standing in their State and Provincial medical societies to attend this meeting.

Railroad Fare—$11.30 round trip, Louisville to St. Louis L. & N. on sale daily with a return limit of fifteen days in addition to the date of sale.

Pullman Fares—Lower berth $2.50, upper berth $2.00, drawing room $9.00 in each direction.

The rail fare is on the basis of two cents per mile in each direction and it is not necessary that you have an Identification Certificate. The Pullman fares are most reasonable and there is no surcharge.

SCHEDULES

Leave Louisville	11:05 P. M.	7:45 A. M.
Arrive St. Louis	7:45 A. M.	4:45 P. M.
Leave St. Louis	10:40 P. M.	8:04 A M.
Arrive Louisville	7:05 A. M.	5:05 P. M.

For further information consult Dr. J. H. Pritchett, Louisville, Committee on Transportation.

DR. SAMUEL GORDON DABNEY

On October 16th the medical profession of Kentucky lost one of its most outstanding and distinguished members in the passing of Dr. Samuel Gordon Dabney. Dr. Dabney for many years has been one of the lights that lead the medical profession of Louisville and of the entire state in its deliberations and other activities. The writer's first acquaintance with Dr. Dabney dates back to the time when Dr. Dabney was teaching physiology at the old hospital college of medicine. He was considered the best of the many medical teachers of that day when instructions were given largely in a didactic way. He was not only a forceful entertaining lecturer but a dynamic quizz master, who had a peculiar power of driving home essential points which made everlasting imprints on the minds of his students. These qualifications proved a drawing card which made Dr. Dabney's hour on physiology one of the most popular of the many lectures scheduled by the four active and efficient medical colleges operating in Louisville forty years ago. His lectures drew students from all of the other medical schools thus crowding to overflowing the amphitheatre during the physiology hour at the Hospital College.

After graduating the writer was appointed to an interneship at the Louisville City Hospital and it was there that the real acquaintance and friendship with Dr. Dabney, who was then on the visiting staff of the hospital began. The daily rounds with him meant much to the young physician just out of medical college for he seemed to take a keen interest in his younger associates and evidenced a desire to impart his knowledge to them. At the time a patient with a fibroid growth of the larynx and coincident loss of voice was under observation at the hospital. The visiting staff and the internes spent much time with this case which offered an excellent opportunity for the internes under the tutelage of Dr. Dabney to familiarize themselves with the use of the laryngoscope. After several weeks the tumor was dexterously removed by Dr. Dabney by the intralaryngeal route with immediate restoration of the man's voice. The profound impression of this case had much to do with the writer's decision to make the study of diseases of the eye, ear, nose and throat his life's work.

During the years to follow it was the writer's privilege to have membership in several of the medical societies in which Dr Dabney was enrolled. In each of these he was known for his retentive memory. A voluminous reader and an ardent student he stored up a vast fund of knowledge. His unusual ability to impart this to others and his forceful manner of analyzing subjects under discussion made his presence felt in every society with which he was associated. Dr. Dabney was untiring in his efforts to serve the sick and afflicted and he devoted to them unstintingly the spare time that most of us give to personal pleasure, recreation and social contact. His profession was his life and he found his reward in the service that he could render the patient. He inspired confidence in his patients by whom he was always held in high esteem. One of his outstanding characteristics was an ability to gain the confidence and friendship of children. Conservative in his judgment at all times, safe in the application of his skill in surgical cases and frank in the dealings with his clientele, he secured a large and loyal following. Dr. Dabney was never jealous of the success of his contemporaries in his contact with them and their patients, all of which influenced his younger confreres to seek his counsel in cases requiring consultation. They knew that they could depend on his judgment and that his convincing manner would increase the confidence of the family.

Dr. Dabney's passing has left a void in our community. The students will miss his lucid instructions; the medical society his forceful discussions; the sick his skill and untiring attention, and those of us who were privileged to know him intimately will miss his loyal friendship and companionship. We all mourn the loss of a good friend.

ADOLPH O. PFINGST.

OFFICIAL ANNOUNCEMENTS

Minutes of the Eighty-Fifth Annual Scientific Sessions of the Kentucky State Medical Association, Held at Louisville

October 1, 2, 3, 1935

FIRST SCIENTIFIC SESSION

Tuesday, Morning, October 1

The opening session of the Eighty-Fifth Annual Meeting of the Kentucky State Medical Association held in the Brown Hotel, Louisville, October 1-3, 1935, was called to order at 9:10 a. m., C. C. Howard, Glasgow, President of the Association, presiding.

President Howard: This is the annual meeting of the Kentucky State Medical Association, and it is in memory of our first president, Dr. William Loftus Sutton.

The invocation will be pronounced by Dr. Stuckey, Pastor of the Fourth Avenue Methodist Church of Louisville.

Reverend Dr. Lewis N. Stuckey: Our heavenly Father, before Thee do we reverently bow, acknowledging that Thou hast made us and all the possibilities that we find in man. We are thankful to Thee for the privilege of service; we are grateful to Thee for this group of doctors and for the work that they are doing. As Thou hast placed in plants and animals food properties that sustain the body, so Thou hast placed there medical properties to heal the body; as Thou hast given to man the mind, the skill of hand to go and find food in the earth, so Thou hast given to man the skill and the mind to go and find that which he eats, and we thank Thee for men who have devoted their lives finding in this world these things that Thou hast given us, and for men who use their minds and their hands to skilfully rescue life and restore health. In the battle that physicians are fighting throughout the world to find better how to heal the bodies of men we pray upon them Thy great blessing.

We pray that this group shall realie the holiness of this profession, that it is a profession of service, that they are serving Thee, doing Thy will. We remember, our Father, that Thou didst use one of the writers of the New Testament, a doctor, Luke the physician, and that his words are recorded in that sacred Book, and we furthermore think this morning of the Great Physician who is not only the inspiration of ministers of the Gospel, but of teachers and of doctors, and unless we follow Him we have failed in life, and as we look to Him, the Great Physician, we not only heal the minds and souls of men, but we heal their bodies. We come before this gathering this morning thinking of Thy great blessings upon this organization as it meets here, upon the memory of those who have labored in the past and have passed into the Great Beyond, upon the officers who through the past year have faithfully carried on the work, and upon the incoming officers who take upon themselves the duties of this medical association. We ask all of these things in the name of our Lord. Amen.

President Howard: Next is the installation of the new President. Gentlemen, I greatly appreciate that you selected me to be your President one year, and it is a fine thing that you select one each year, because this is an honor that any of you could take and it is fair to pass it around. You have selected a man from Louisville this time, a man who has been a friend to the profession for twenty or twenty-five years, who has befriended you at times when you didn't know it, a man who is honorable in every respect and an able doctor. I am very glad to turn this gavel over to Dr. J. B. Lukins (Applause)

J. B. Lukins, Louisville, took the chair.

President Lukins: This is the Eighty-Fifth Session of the Kentucky State Medical Association. According to the program as outlined by Dr. Horine, this is only the Eighty-First meeting, but we take it that there were four years during the Civil War when there were no meetings of this Society.

The first President of the Kentucky State Medical Association was Dr. Sutton of Georgetown, Kentucky. He did a lasting piece of work. When he organized the Kentucky State Medical Society he organized a real institution that was to go on and benefit the citizenship of Kentucky from that day until this hour. In other words, his work was lasting and it is getting bigger and better all the time.

There have been many good presidents and able leaders of this organization from that time to this, but your last President has been Dr. C. C. Howard of Glasgow, the retiring President on my right, and Dr. Howard has made one of the best presidents this organization ever had. (Applause) I say that Dr. Sutton started something that is enduring and the same thing is true of Dr. Howard. In the erection of the Jane Todd Crawford monument which we dedicated last Memorial Day at Danville, he has erected something that will be enduring, that will be an honor to the profession, and besides being a monument to Mrs. Crawford it is really a monument to Dr. Howard for his enthusiasm for the work and his loyalty to the profession. We all love him. His whole heart has been in this work, and I don't hope to make as good a president as Dr. Sutton or Dr. Howard and many others who have honored this Society, but I

do want to do the best I can, and with your support and your whole-hearted co-operation I believe the Kentucky State Medical Society will continue to grow and prosper.

I thank you all, every one. I am glad you are here this morning, and I believe that you will continue to come every day of this session and show by your presence that you want to make this meeting the very best that our Society has ever had in its long history. (Applause)

The President of the Jefferson County Medical Society is Dr. James H. Pritchett, Louisville. Dr. Pritchett will now give us a word of welcome and report for the Committee on Arrangements.

James H. Pritchett, Louisville: Mr. President, Ladies and Gentlemen: On behalf of the City of Louisville and the Jefferson County Medical Association, the University of Louisville, and each and every hospital, we bid you welcome. We hope your stay will be pleasant and profitable. The program as outlined by Dr. Horine is full of good things from the first to the last.

On my left on the bulletin board is an arrangement of the various clinics at some of the hospitals. These gentlemen have gone to great lengths to arrange for your entertainment and information some fine clinics which will be held tomorrow morning and also this morning.

Tonight will be the President's reception and address in this hall, followed by dancing for those who trip the light fantastic.

Tomorrow will be the golf tournament held at Audubon Park. There will be many beautiful and valuable prizes. These will be given away by Dr. Albert Bass tomorrow night in this room at the banquet. There will be prizes for the low gross score and runner up, likewise low net and runner up, and blind bogy from the 70 to 85 score.

Tomorrow night at Loew's Theater at 7 o'clock there will be a party for the ladies. Please secure your reservation at the ladies' registration booth.

Tomorrow night in this hall at 8:30 will be the annual banquet, for the gentlemen.

Thursday will be a big day. After a full morning here in this auditorium, the afternoon will be devoted to conference work at the City Hospital, after which you are invited to inspect the new medical building at First and Chestnut.

We want you to stay as long as possible and we hope you will have an enjoyable time. (Applause).

The following papers were read:

Case Reports. No discussion.

Resection of the Kidney for Localized Pyonephrosis, by James R. Stites, Louisville.

Presentation of a Patient with Fracture of the Neck of the Femur Treated by the Key Method, by George A. Hendon, Louisville.

A Case of Intractable Pain Relieved by Cordotomy, by R. Glen Spurling, Louisville.

Pylorospasm in an Adult, by Frederick G. Speidel, Louisville.

Case of Hypoparathyroidism, by Charles E. Gaupin, Louisville.

Case of Gongylonema with Exhibition of Specimen, by Lillian H. South, Louisville.

Evaluation of the Newer Methods of Handling Pulmonary Tuberculosis, by Ernest B. Bradley, Lexington; discussed by L. Wallace Frank, Louisville; Paul Turner, Louisville; John W. Scott, Lexington; W. T. Little, Calvert City; L. S. Hayes, Louisa; Philip F. Barbour, Louisville; J. E. Edwards, Lancaster; L. E. Smith, Louisville; L. H. Winans, Ashland; Smithfield Keffer, Grayson; R. E. Smith, Henderson; H. J. Phillips Louisville; closing discussion by E. B. Bradley, Lexington.

Indications and Contra-Indications for Blood Transfusions, by C. A. Morris, Covington; discussion by M. C. Spradlin, Somerset; George A. Hendon, Louisville; Edward Speidel, Louisville; C. C. Howard, Glasgow; Emmet F. Horine, Louisville; Leon L. Solomon, Louisville; discussion closed by C. A. Morris, Covington.

The Oration in Medicine, A Plea for More Conservatism in Surgery, was given by S. C. Smith, Ashland.

The meeting recessed at 12:10 o'clock.

SECOND SCIENTIFIC SESSION

Tuesday, Afternoon, October 1

The second scientific session was called to order at 2:00 p. m. by President Lukins.

The following papers were presented:

Coronary Thrombosis: Differential Diagnosis with Note on Angina Abdominis, by George H. Gregory, Versailles; discussed by E. B. Willingham, Paducah; John W. Scott, Lexington; Emmet F. Horine, Louisville; W. B. Troutman, Louisville; J. O. Hazlip, Ft. Thomas; Leon L. Solomon, Louisville; closing discussion by George H. Gregory, Versailles.

Symposium on Obstetrics:

Obstetrical Analgesia and Anesthesia, by Scott D. Breckinridge, Lexington; Resuscitation of the New-Born, by C. L. Sherman, Millwood; Post-Puerperal Treatment, by A. W. Davis, Madisonville; discussed by William T. McConnell, Louisville; Edward Speidel, Louisville; Henry Rubel, Louisville; Harry A. Davidson, Louisville; J. L. Anderson, Manchester; closing discussion by Scott D. Breckinridge, Lexington; C. L.

Sherman, Millwood, and A. W. Davis, Madisonville.

Arachnidism and Treatment, by David L. Jones, Fulton; discussed by Lt. Commander Thomas F. Duhigg, Medical Corps, U. S. N., New York City.

The meeting recessed at 4:15 p. m.

PUBLIC MEETING

Tuesday Evening, October 1

At the public meeting, which was held at 8:15 p. m. in the Crystal Ball Room of the Hotel Brown, A. T. McCormack, Louisville, Secretary of the Association, presided.

There were piano duets by Frank Pirkey and Everett Baker, Louisville.

Virgil Simpson, Louisville, introduced the guest speaker of the evening, Judge Elwood Hamilton, Louisville, who delivered an address, To the Medical from the Legal Profession.

Dr. McCormack presented out-of-town guests, Felix Underwood, Mississippi; E. C. Rosenow, Rochester, Minn., and William F. King, Indiana.

The President's Address, The Spirit of Medicine, was delivered by J. B. Lukins, Louisville.

The meeting adjourned at 10:00 o'clock.

THIRD SCIENTIFIC SESSION

Wednesday Morning, October 2

The third scientific session convened at 9:15 a. m., President Lukins presiding.

The following papers were presented:

Hematological Reactions Following the Use of the Arsphenamines, by Murray L. Rich, Covington; discussed by A. B. Loveman, Louisville; C. A. Morris, Covington; J. B. Lukins, Louisville; closing discussion by Murray L. Rich, Covington.

Pediatric Therapeutics, by Gordon S. Buttorff, Louisville; discussed by R. Julian Estill, Lexington; Philip F. Barbour, Louisville; A. T. McCormack, Louisville; John W. Scott, Lexington; Lillian H. South, Louisville; C. K. Beck, Louisville; R. E. Smith, Henderson; W. H. Joyner, Sandy Hook; L. C. Coleman, Richmond; closing discussion by Gordon S. Buttorff.

Ocular Manifestation of Systemic Diseases, by Harry D. Abell, Paducah; discussed by Albert E. Leggett, Louisville; closing discussion by Dr. Harry D. Abell, Paducah.

The Honorable J. C. W. Beckham was introduced and spoke briefly.

The Oration in Medicine, Just Among Ourselves, was delivered by James H. Pritchett, Louisville.

The meeting recessed at 12:15 p. m.

FOURTH SCIENTIFIC SESSION

Wednesday Afternoon, October 2

The fourth scientific session was called to order at 2:15 p. m. by President Lukins.

The following papers were presented:

Modern Trends in the Treatment of Pyelitis, by Lewis C. Coleman, Richmond; discussed by Leslie H. Winans, Ashland;; George A. Hendon, Louisville; R. Julian Estill, Lexington; C. S. Moorman, Louisville; H. L. Davidson, Champaign, Illinois; Smithfield Keffer, Grayson; closing discussion by Lewis C. Coleman, Richmond.

What the Physician Should Know about Periodontal Diseases, by E. D. Rose, Dean, Dental Department, University of Tennessee, Memphis, Tennessee; discussed by R. E. Smith, Henderson; C. W. Rogers, Vine Grove.

Contract Practice, by Rockwell Emerson Smith, Henderson; discussed by Carlisle R. Petty, Lynch; R. T. Layman, Elizabethtown; C. A. Morris, Covington; W. R. Parks, Harlan; A. T. McCormack, Louisville; closing discussion by R. E. Smith, Henderson.

The meeting adjourned at 4:30 p. m.

At the banquet on Wednesday evening, the Annual Oration, Injuries of the Hand, was given by Sumner L. Koch, Associate Professor of Surgery, Northwestern University, Chicago.

At the conclusion of the address, upon motion of Dr. McCormack, seconded by Dr. Abell, the Scientific Assembly recommended to the House of Delegates that its guests, Drs. Sumner L. Koch, of Chicago, and E. C. Rosenow of Rochester, Minnesota, be elected to Honorary Life Membership.

FIFTH SCIENTIFIC SESSION

Thursday Morning, October 3

The fifth scientific session was called to order at 9:15 a. m., President Lukins presiding.

The following papers were presented:

Social Trends in Medicine, by J. D. Northcutt, Covington; discussed by A. Clayton McCarty, Louisville; C. V. Stark, Maysville; J. N. Bailey, Paducah; A. T. McCormack, Louisville; closing discussion by J. D. Northcutt, Covington.

Oto-Laryngology for the General Practitioner, by Harry Stambaugh, Ashland; discussed by George F. Doyle, Winchester, M. C. Baker, Louisville; C. V. Stark, Maysville; Philip F. Barbour, Louisville; A. R. Bizot, Louisville; Oscar Allen, McHenry; L. H. Winans, Ashland; closing discussion by Harry Stambaugh, Ashland.

Modern Management of Tumors of the Breast, by J. Duffy Hancock, Louisville; discussed by Guy Aud, Louisville; Louis Frank, Louisville; J. E. Edwards, Lancaster; A. D. Willmoth, Louisville; Frank P. Strickler, Louisville; D. Y. Keith, Louisville; J. B. Lukins, Louisville; closing discussion by J. Duffy Hancock, Louisville.

A vote of appreciation was extended to

President Lukins for his splendid conduct of the meeting, to Dr. Lukins and Emmet F. Horine for the excellent program, to the host society and committees, the press, and the Hotel Brown and its manager.

Upon motion of D. Y. Keith, Louisville, a resolution of sympathy was voted to be transmitted to the bereaved family and the Indiana Medical Society upon the death of its President-Elect.

The meeting adjourned sine die at twelve noon.

A. T. McCormack, Secretary.

Minutes of the Eighty-Fifth Annual Session of the House of Delegates of the Kentucky State Medical Association Held at Louisville, September 30-October 3, 1935

Monday Afternoon, September 30, 1935

The first session of the House of Delegates of the Kentucky State Medical Association, Eighty-Fifth Annual Meeting, held September 30-October 3, 1935, at the Brown Hotel, Louisville, convened at 2:00 p.m., Monday, September 30, in the Louis XVI Room, President C. C. Howard, Glasgow, presiding.

President Howard: The first order of business is the report on Credentials, A. M. Leigh, Louisville, Chairman.

Secretary Arthur T. McCormack: In the absence of Dr. Leigh, I have the list of delegates from the counties and I move that that constitute the Credentials Committee's report.

The motion was seconded and carried.

Roll Call by the Secretary.

President Howard: Minutes of the 1934 meeting.

William B. Atkinson, Campbellsville: I move the reading of the minutes of the 1934 meeting be dispensed with.

The motion was seconded and carried.

President Howard: Next is the report on Scientific Work, Dr. J. B. Lukins, Chairman.

J. B. Lukins, Louisville: Mr. Chairman, Delegates, Ladies: We believe that we have prepared the most comprehensive program that we have had in the Kentucky State Medical Association. The program, as stated in the letter that I suppose everyone received, is varied and ought to appeal to every doctor of every class, no matter what his specialty is. I want to say, in the first place, that the emphasis this year has been put on the general practitioner, the family physician. There are only two Louisville doctors on the program and only two from Lexington.

We are going to start at nine o'clock in the morning. Those of you who decide to go to a clinic (and there will be interesting clinics at the various hospitals) remember that I have emphasized the point that these clinics should be dismissed at 8:45, so please leave the hospitals at 8:45 and be here at nine o'clock.

In addition to the essays and discussions there is a scientific exhibit in the South Room, the same place as the commercial exhibits, that is a credit to any medical society. We believe you will find both very interesting and helpful.

On Thursday afternoon, which is usually a bad time for a program, Dr. Horine has prepared what should be the most helpful part of the whole session, that is a clinical-pathological conference at the City Hospital. At this conference, reports of cases will be given, what the laboratory said it was, what the internist said it was, and if an operative case what the surgeon said it was, and finally what it showed at autopsy, so we ought to get a line on these cases from every angle. We believe that will be very helpful.

If I might digress a little bit from the scientific, if there are any golfers present I want to tell you that we are going to play at the Audubon Country Club.

On Tuesday night we have the President's address and after that a reception and dance, and we believe this is going to be a nice party. We have engaged the best musical talent in the City of Louisville, a full orchestra, for that occasion.

We have something else on the program that I think is unique. Kentucky doctors can do almost anything, but we have found two or three in the Jefferson County Society who are expert musicians. They are going to give us some classical music that will rank among the best; our own doctors are going to supply the piano music on Tuesday night, and I believe you will all enjoy it.

On Wednesday night we are to have the banquet, which is given through the courtesy of the Jefferson County Medical Society. Dr. Pritchett will talk about that.

If there is any question you want to ask about the scientific session I will be glad to answer it, if I can. We are expecting a large attendance, and I believe all the essayists will be on hand. All the papers are open for discussion except the case reports

tomorrow morning. The first six case reports are not open for discussion.

SECRETARY MCCORMACK: I rise to a point of order. The report of the Committee on Scientific Work covers the scientific work of the session, and the arrangements for the session are covered by the Committee on Arrangements, of which Dr. Henderson is Chairman; he is present and ready to make the report. I want it distinctly understood that I believe that the prerogatives of each committee ought to be preserved and that there ought to be no duplication of functions or infringements. It sounds like bureaucracy in Washington.

PRESIDENT HOWARD: Report of the Committee on Arrangements, Dr. Henderson.

E. L. HENDERSON, Louisville: As Chairman of the Committee on Arrangements, I might say that we have endeavored to follow up Dr. Lukins' suggestion and are trying to make this not only the best meeting from the scientific standpoint of any meeting the state has ever had, but we are trying to make it the most interesting from various angles. We have a wonderful program, a program that appeals to the general practitioner—not a specialist's program.

In addition to that program, we have tried to provide entertainment for you while you are here. For the golfers we have a golf tournament on and we have some beautiful trophies for those who are fortunate enough to win them. We have provided on Tuesday evening following the President's address, a presidential reception and some music by members of the local profession, and following that we have an orchestra and will have some dancing for those who want to dance.

The next evening we have provided a banquet, at which time our guest speaker will talk to you. We are going to try to have something that is good to eat, but no frills or anything of that kind. The treat at that meeting will be the guest speaker. I don't know whether many of you are acquainted with Dr. Koch of Chicago, but I think he is the outstanding man in the United States, since Dr. Kanavel has retired, on hand infections and hand surgery in general.

I hope that you will enjoy yourselves while you are here. We are certainly going to try to do our part to make you enjoy it.

PRESIDENT HOWARD: Dr. Horine, do you have anything to add to this report? I think they made you do the work.

E. F. HORINE, Louisville: No, thank you. The report is very good and expresses my sentiments.

PRESIDENT HOWARD: We will hear Dr. Keith's report next, of the Committee on Extension Course.

D. Y. KEITH, Louisville: On March 12 we were asked by your President if we would attempt to arrange educational programs for the various districts of the state. This has been done in cooperation with Dr. Barbour, who had some uncompleted pediatric programs which he has diligently and faithfully carried out. We wish to express our appreciation for his untiring and cooperative work.

From May 13 to September, eleven educational programs have been conducted. The programs have been arranged by your committee. These programs have been presented at the following towns:

May 9, Fifth District, Carrollton, Ky.
May 10, Tenth District, Richmond, Ky.
May 11, Ninth District, Ashland, Ky.
May 15, Eleventh District, Harlan, Ky.
June 6, Third District, Elkton, Ky.
June 13, Eighth District, Cynthiana, Ky.
June 14, Fourth District, Hodgensville, Ky.
Aug. 28, Sixth District, Greensburg, Ky.
Aug. 30, Seventh District, Crab Orchard Springs, Ky.

Dr. Barbour and Dr. Andrews conducted a pediatric program at Madisonville and Mayfield. Dr. Barbour has a program arranged for Pineville to be held sometime this fall, the date to be named later.

Those that we have attended have had good crowds and in a few places where programs were conducted last year and again this year, the crowds have increased and in some instances doubled the number in attendance.

I am sure there is a distinct place for the educational program, but I think it should be organized on very definite lines, having at least two meetings in the spring and two in the fall in each district. If this was done, a rather satisfactory program could be arranged and all districts would have the same programs except given by different speakers, and we could pretty well cover our educational program probably within a period of two years. This we would recommend and hope to put into effect during the next year. We would suggest, for illustration of the types of program, that a symposium on the chest be given by three or four men, the following meeting a symposium on the heart by a

similar number; later on a symposium on the genito-urinary tract, the osseous system, the skull, and subjects interesting to the eye, ear, nose and throat specialist. This type of program, with an occasional symposium on certain diseases, we feel would give members an incentive to attend the meetings as well as to increase their knowledge and interest and their desire to become better doctors.

The Committee, particularly the Chairman, requests your advice and cooperation.

A list of the speakers follows:

THIRD DISTRICT (Elkton) — Speakers: J. R. Stites, D. Y. Keith, W. W. Nicholson, J. B. Lukins.

FOURTH DISTRICT (Hodgenville) — Speakers: T. Cooke Smith, A. T. Hurst, W. O. Johnson.

FIFTH DISTRICT (Carrollton)—Speakers: Fred Rankin, Lexington, Louis Herrman, Cincinnati, Kennon Dunham, Cincinnati.

SIXTH DISTRICT (Greensburg)—Speakers: Carlisle Morse, Harry S. Andrews, C. G. Arnold.

SEVENTH DISTRICT (Crab Orchard)—Speakers: W. O. Johnson, Virgil E. Simpson, W. H. Allen, J. H. Pritchett, C. C. Garr, Lexington.

EIGHTH DISTRICT (Cynthiana)—Speakers: Harry S. Frazier, Guy Aud, D. Y. Keith.

NINTH DISTRICT (Ashland)—Speakers: Frank Stites, G. A. Hendon, J. D. Williams, Ashland, G. S. Hanes.

TENTH DISTRICT (Richmond)—Speakers: O. O. Miller, James Bruce, Alice Pickett, W. I. Hume, M. H. Pulskamp, Virgil E. Simpson.

Discussions: Murray, Floyd, Estill, Coleman, Breckinridge, Rutledge, Massie, O. F. Hume, Alley, Rankin, Scott, Kinnaird.

ELEVENTH DISTRICT (Harlan)—Speakers: E. S. Allen, P. F. Barbour.

Respectfully submitted,

D. Y. KEITH, *Chairman.*

PRESIDENT HOWARD: Are there any comments on this report? Dr. Keith has done a fine piece of work.

SECRETARY MCCORMACK: The President's report is next. If he makes it as well as he has done his work it will be a good report.

PRESIDENT HOWARD: I haven't any report, I deeply appreciate being President of this Association. I have been coming to the Kentucky State Medical Association for twenty-four years, but I have a deeper respect for it today than ever, because I have contacted many more men than ever. I have driven over the state and have seen them at their homes, and I don't know of anything that makes you appreciate each other as much as visiting. I had never been up in the Big Sandy and I enjoyed that; I have been down in the Western part, up in the northern part—Maysville, Covington, and I have the greatest admiration for the profession of Kentucky. I have tried to compare this state with other states, Tennessee, Indiana, Illinois, taking their journals and visiting them some. It is a fine thing to have a lot of pride in your own organization. Without egotism, I can gladly say that I think we have the best organized state society anywhere near us, and it is so not through my efforts, not through any special efforts except the efforts of all of you and through his (Dr. McCormack's) old father's efforts and his. You have a fine organization and it goes on regardless of who might become the President—he just moves in and out. It is a complimentary position and of course he should deeply appreciate it, but behind that there has to be the Council and the delegates and each man and the Secretary and all these girls that keep it up, and they have to keep at that all the time.

It is a great thing to be a fine Secretary of a county society. I notice a lot of you men here today have been secretaries of county societies for years. You have been aggravated with it, you have been depressed over it, you have tried different programs, and all that, but these societies go on. We are growing and becoming more useful and more appreciated by the public. Of course problems like state medicine come up, but I am not especially disturbed because I don't think we will accept state medicine; it will have to be put in a different form. I feel very secure about the State Society.

I want to thank you deeply. (Applause.)

Next is the report of the Council, Dr. Vance, Chairman.

C. A. VANCE, Lexington: Mr. President and Members of the House of Delegates: This report was written and argued over two weeks ago yesterday down here at this hotel when we had an all-day meeting, so it is the result of a lot of deliberation and conversation.

We are very happy to report an increase in paid membership of the Association for the second successive year. It is 1681 as against 1584 last year and 1536 the year

before. How many members do you think we have gotten in since the meeting and during this meeting?

SECRETARY MCCORMACK: Thirty-five.

DR. VANCE: Thirty-five or forty? We can add that to it.

This is the second successive increase in paid membership in five years. The roll of annual membership is a silent testimonial to the loyalty of the physicians of Kentucky who are in active practice during the economic strain and stress through which the profession has passed since 1929. Probably no other group was more seriously affected by the economic situation from which we have happily emerged than the medical profession. Almost half of the families in the state were receiving their support either from federal relief or were in the marginal class that is barely able to secure the necessities of life. Great national policies, which were adopted to stem this emergency, have greatly restored economic sufficiency to most of the groups of people in Kentucky who ever were able to adequately support themselves. Besides this, the situation has aroused us to a social consciousness and, we hope, has awakened in us a social conscience that will mean much in the future development of our commonwealth.

The Association was represented at the hearings of the Ways and Means Committee of the House and of the Finance Committee of the Senate on the Social Security Bill by its Secretary. Great anxiety has been aroused in the profession by the proposals of powerful social work groups of forms of sickness insurance which would have developed a federal plan for the socialization of medicine. Through the powerful influence of the organized medical profession of the United States, it was evident from the first that not a single member of the Ways and Means Committee in the House and only two members of the Finance Committee in the Senate favored sickness insurance in any form, and the suggestions that have been advanced along these lines were not even considered by this Committee.

The Council feels sure that the Association will wish to voice its approval of the great service of Dr. A. T. McCormack in the development of the public health sections of the Social Security Act so that it conforms so directly to the high standards which have been found successful in Kentucky and other states which have adopted similar plans for the protection of the public health.

The Council recommends that the Association express its especial appreciation of the recognition of the attitude of the medical profession of Kentucky to the Honorable Fred M. Vinson, a member of the House Committee, and the other Congressmen from Kentucky, and to Honorable A. W. Barkley, a member of the Senate Finance Committee, and to his colleague, Senator M. M. Logan.

Kentucky physicians will take especial pride in the fact that the Public Health, Maternal and Child Health and Crippled Children programs provided in the Social Security Bill were based on the recognition of the responsibility of the medical profession for public health and medical service; that they are in exact accordance with the principles approved by this Association continuously during the past fifty years; and that they will require no change either in our laws or programs. They make necessary only a very slightly increased state appropriation, but some of the counties and the cities of the first and second class in the state will need to increase their appropriations in order to best secure the benefits provided in the bill.

This Association has long recognized that the people of Kentucky, through successive enactments of its General Assemblies, have placed the responsibility for public health and medical service squarely on the shoulders of the medical profession. Under the wise leadership of our predecessors, Kentucky is already in the vanguard of the states in these important activities. The new federal legislation will merely enable its public health authorities to carry on the local programs of full-time county and city health departments so as to enable our people to take advantage of the great scientific advances made by the profession in the last twenty-five years. Seventy-four of Kentucky's one hundred and twenty counties already have effective full-time public health organizations; with the additional federal funds, the other counties may develop these services for their people if they desire to do so.

In the section providing for assistance to crippled children $20,000 will be allotted to the state and the total amount available to Kentucky from the federal appropriation will be $58,800. Possibly more than this will be available because only sixteen states are now participating in the crippled children's work. For maternal

and child health, continuing the work done for these many years by the Bureaus of Maternal and Child Health, Public Health Nursing, Public Health Education, and Dental Health, $69,500 will be available, and this will be matched by existing appropriations dollar for dollar. In the assistance to the state and county health departments, the federal appropriation will be approximately $170,000. In most states this will be additional money for the development of adequate rural health services, but in Kentucky it will mean approximately $32,000 new money, as this state has been receiving federal assistance and assistance from the International Health Board of the Rockefeller Foundation for several years in the development of its great public health program.

It is very important for our people to realize that the Social Security Bill does not *require* any minimum that the state has to appropriate. The state originates its own plan and the only requirement of the federal law is that this plan must provide for such methods of administration as will insure efficiency in operation. All of the federal grants are on the basis of matching, within certain limits, what the state appropriates.

The fear most frequently expressed by those who are so blind that they will not see, or who are superficially acquainted with this vast program, is that it will be under the control of a federal bureaucracy. Nothing is farther from the truth. In each of the titles of the bill the initiation of all plans and the control and maintenance of all programs is retained to the states. The state agencies are, of course, required to make such reports and to submit to such audits as will show that the federal money is expended for the purposes for which it is appropriated.

The other provisions of the Social Security Act are of tremendous importance, but are outside of the special interest of this Association and are, therefore, not discussed in this report.

The Association desires to express its appreciation to Governor Laffoon for the selection of its Secretary as Chairman of the Kentucky Social Security Commission, to study the modifications of Kentucky statutes to conform to the federal legislation.

We especially commend Dr. McCormack for asking this Council and the Committee on Medical Economics to act as advisory members of the Subcommittees in the sections pertaining to Public Health, Maternal and Child Health, Crippled Children, and Pensions for the Blind. He has also asked the Committee on Public Relations to act as an Advisory Subcommittee on Public Health. He has requested Drs. Philip F. Barbour, James H. Pritchett, R. Julian Estill, L. J. Winans and T. J. Marshall to act as an Advisory Committee on Pediatrics and Drs. W. D. McConnell, Alice N. Pickett, L. T. Minish, Scott Breckinridge, S. P. Oldham, to act as an Advisory Committee on Obstetrics. He has asked Drs. W. Barnett Owen, Harry Goldberg, O. R. Miller, R. L. Woodard, R. T. Hudson, W. M. Brown, Charles Garr, and M. D. Garred to become members of the Advisory Committee on Crippled Children and Drs. Adolph O. Pfingst and R. W. Bledsoe, H. D. Abell, W. A. Weldon, and M. L. Gunn, to act as medical members of the Subcommittee on Pensions for the Blind.

The federal regulations and standards authorized in the Social Security Act were formulated at recent conferences of the State Health Officers with the Surgeon General of the United States Public Health Service and with the Medical Assistant Chief of the Children's Bureau. At the invitation of the Conference of State Health Officers, the American Medical Association was represented at each of these conferences by members of its Board of Trustees and of its permanent staff, who took active part in the formulation of all of the policies so that they would meet with the approval of organized medicine in its purpose of giving the best service to the people of the several states through medical health agencies.

The medical profession realizes now, as it never did before, that it has borne most of the burden of the unnecessary illness in Kentucky's indigent population. Our studies have heretofore indicated that in normal times one-third of the people of the state never paid a penny for medical service. Outside of the organized cities, we all realize too little the great need of the people for such service, and our governmental organization has paid so little attention to their economic distress that they continued to be born, to live and to die without medical service, except in emergencies, and when medical service was given the entire expense was borne by the medical profession. The nation-wide study of the various state organizations, through the federal relief agencies, has brought to our attention the fact that before 1929 the better gov-

erned states had relieved their medical profession of much of this great burden that the physicians of Kentucky have carried too long to their detriment. Unless the profession is awakened to its own interest and organizes itself carefully in this matter we will again find ourselves broken under a burden which belongs to the whole state and not alone to the medical profession. The Committee on Medical Economics has been considering these matters very carefully and will make a report that we feel sure will receive your close attention. A large number of our employable population, which will receive so-called security wages from the Federal Progress Works Administration, will hereafter be given medical, dental, hospital and nursing attention through the Federal Employees' Compensation Commission under technical regulations for service connected disabilities only.

The Committee on Medical Economics has been constantly in touch with the administration of the Federal Emergency Relief, through its Director, Honorable George H. Goodman. Mr. Goodman has been thoroughly sympathetic with the views of the Committee but has been much hampered by the inadequacy of his financial allotments and by restrictions from the Washington office. However, the obstetrical fee has been increased and other irritating requirements have been relaxed and an excellent study has been made of the whole medical relief situation which will be of value in future arrangements.

At the Harlan meeting we considered and approved the recommendations of the American Medical Association in regard to certain principles underlying our opposition to any form of the state practice of curative medicine or social insurance.

At the Atlantic City Session of the American Medical Association the following action was unanimously taken by the House of Delegates in amending Principle 6: "In reviewing the ten principles governing the practice of medicine that were adopted by the House of Delegates at the Session in Cleveland in 1934, your Committee finds that some confusion has arisen in regard to Principle 6, which reads as follows:

" 'However the cost of medical service may be distributed, the immediate cost should be borne by the patient if able at the time the service is rendered.'

"Your Committee recommends that Principle 6 be changed so as to read as follows:

" 'In whatever way the cost of medical service may be distributed, it should be paid for by the patient in accordance with his income status and in a manner that is mutually satisfactory.' "

The Council recommends that this Association approve the above amendment.

There are a few more than two thousand of the twenty-five hundred physicians holding certificates entitling them to practice medicine in Kentucky who are actively engaged in practice. Most of those who are delinquent in their dues have been fairly constant attendants at the meetings of their medical societies, and it is a pity that they are deprived of the postgraduate courses provided in the successive issues of the JOURNAL and of medical protection by failure to pay their dues.

We have published the report of the auditor on accounts of the Secretary and Treasurer in the Annual Number of the JOURNAL. We have continued to publish these reports in great detail because we feel that every member of the Association, and particularly every member of the House of Delegates, is entitled to know all about the affairs of the Association.

The income of the JOURNAL this year was $6,500.91 as contrasted with $5,440.69 last year. The total cost of the JOURNAL was $7,899.31 this year as compared with $7,938.70 last year. This is the second successive year in which there has been an increase in the income of the JOURNAL. Last year the deficit was $2,498.01 as against $1,398.46 this year.

This is the fifth in twenty-eight years in which the JOURNAL has not paid its own expenses. With our advertising income increasing from month to month we trust we will be able to have a much more favorable report next year. Of course, the advertising income of the JOURNAL is entirely due to the loyalty of our members in giving preference, other things being equal, to those announcements which appear in our advertising pages. We are confident that almost every one of our members reads the JOURNAL. Its value to them is apparent. In addition to this, the fact that the Association guarantees the financial integrity of the advertising columns of its JOURNAL is of compelling interest.

The Council again desires to express its appreciation to the American Medical Association and especially to the Cooperative Medical Advertising Bureau for its effective work in securing national advertising. We are especially grateful to Messrs.

Braun and Mattson of the Business Department of the parent organization, who personally have done such effective work in this connection.

The JOURNAL has continued to comply with the established policy of the Association and has published all of the articles read before county societies, as well as the scientific proceedings of the sessions of this Association. There is a natural difference of opinion as to the wisdom of this policy. The Council has felt that it is best to continue it. The annual volumes of the JOURNAL provide a fair index of the state of medical knowledge and one who will take the trouble to compare the volumes of the JOURNAL from year to year will take great pride in the increased scientific knowledge of the medical profession and its constantly increasing ability to better serve our people.

The Council desires to call to the attention of the profession the educational value of the exhibits at the annual meeting. These exhibitors are carefully selected from among a large number of applicants and they present to you, in an attractive and interesting way, the annual improvements in medical and surgical armamentaria. The exhibit this year has been kept small and the Council desires to urge those in attendance to study it carefully.

The Council has approved the suggestion of the Committee on Scientific Work that a more extensive scientific exhibit be combined with the regular commercial exhibit this year. These exhibits will be continuous. This will enable small groups of those in attendance to ask questions of the exhibitors which we feel will make these demonstrations particularly valuable.

Dr. Virgil E. Simpson has for many years been a representative of this Association to the Convention for the Revision of the U. S. Pharmacopoeia, which is responsible for the revisions of this important standard publication, and it is recommended that this appointment be continued.

For eleven years the Association has cooperated with the State Board of Health in the enforcement of medical practice and other health laws. The House last year authorized the expenditure of not to exceed $1,200 for this purpose.

In cooperation with the allied professions of dentistry, pharmacy, nursing and embalming, which are more or less loosely combined in the State Department of Health under the Reorganization Act, which was passed by the last legislature, the Bureau of Registration was developed. Dr. John G. South, a former President of this Association, was made Director and he is devoting his entire time to this important activity. The chief inspector of this Bureau is an experienced attorney, who is also giving his full time to the work. Kentucky has joined New York, New Jersey, and other progressive states in its determination to protect its people from incompetency and corruption in those professions that are furnishing services which are classified in the medical service group. All of the professional groups involved are enthusiastically cooperating in this program and the Council very cordially recommends the appropriation of not to exceed $1,200 for this purpose for next year. Fortunately it has been possible to carry on the work during the present year without the necessity for the expenditure of the previous appropriation, but we can hardly hope for this favorable condition to continue without our assistance.

Under our unfortunate and clumsy system of court precedure, the constant changing of county and commonwealth attorneys, elected under our partisan and political system, too frequently results in the election of men who are not sufficiently energetic or interested in law enforcement to effectively enforce the medical and health or, in fact, any of the other laws of the commonwealth. It is indeed surprising, under such a system, that the majority are such good officers. Realizing, as physicians do, the vital importance of the health and medical laws, it is natural that irritation will frequently arise amongst them, because of failure in their enforcement. In those sections of the state where physicians have joined with other progressive organizations of citizens in the selection of worthwhile attorneys as court officials, there has arisen no complaint. Complaints of evasion of the law come from poorly organized counties and districts which continue to select these officials as reward for political service or because of the predominating influence of some special interest, and it is apparent that it will be impossible to improve conditions in these sections until public opinion has been educated as to the importance of the selection of competent officials. This year, again, our attorneys have assisted in the preparation of more than one hundred and eighty-six cases, and they have been effectively aided by the Commonwealth and

County Attorneys in many sections of the state.

The Medico-Legal Committee has very carefully conducted its affairs during the present year. The expense of attorney's fees was $880.10 this year as against $850 last year. Court costs this year were $26.60 as compared with $20.76 last year. The Council again desires to particularly commend the excellent management of this committee by Dr. Lukins. As President-Elect, in his discussion of other matters, he has kept constantly before the county and district societies the underlying principles of the medico-legal relations of the profession.

The Council also recommends that the Association express its approval to Honorable Roy B. Curtis, our chief counsel, of his excellent supervision of the actual court presentation of these technical cases. The report of the committee will go into further detail and will make recommendations that will merit the attention of the House.

Last year an appropriation of not to exceed $1,200 was made to continue the active work of the Committee on Public Policy. $1,150 was expended and Mr. Blackerby will make a report of the work he has been doing during the year. The Council recommends that this appropriation be continued.

The Council reports the continuation of the splendid service rendered by the Irvine McDowell Hospital for Trachoma, located at Richmond. This excellent institution, instituted as a living memorial to Ephraim McDowell, the immortal father of ovariotomy, in a building bequeathed to the medical organization of Kentucky by Dr. McDowell's grand-daughter, Mrs. Elizabeth Irvine, has restored to usefulness hundreds of Kentuckians who would otherwise have been blind. Recognition of the value of this service by the Legislature was indicated by the increase of the state appropriation from $7,500 to $9,200. The United States Public Health Service provides the balance of the maintenance cost and, together with the State Department of Health, furnishes the personnel. The profession and the people of the state are grateful to the United States Public Health Service for continuing to provide Dr. Robert Sory as the Director of the Hospital. We believe that no medical service institution has been conducted more efficiently and economically.

The Council again desires to congratulate the officers and members upon the fine accomplishment of the Woman's Auxiliary. If the physicians in the counties which have not yet organized auxiliaries read the quarterly supplement of the JOURNAL and permit it to be read by the women of their families, it is difficult to understand why there is not an active auxiliary in every county in the state. There is no question but that there is increased interest in the county societies where auxiliaries exist. The quarterly supplement to the JOURNAL has been published without cost to the Association, and every issue has been paid for promptly upon its publication. The Council is particularly grateful for the contributions of the quarterly to medical history and to the lessons in medical service, which are valuable not only to the members of the auxiliary but to the profession. The Council recommends that the auxiliary be requested to continue the publication of the quarterly supplement to the JOURNAL. It further recommends that an appropriation not to exceed $500, to assist in the development of the auxiliary, through the publication of the Quarterly, or otherwise, be made next year. The only expenditure from this appropriation this year was $60 for the luncheon at Harlan. The Secretary was instructed to make recommendations to the auxiliary at its meeting in regard to a method for securing additional advertising income.

The efforts of the auxiliary to increase the subscription in Kentucky to Hygeia, the medical service education organ of the American Medical Association, are particularly commended. It is interesting that ninety per cent of the subscribers to Hygeia are in the counties with organized auxiliaries.

The Council desires to report the acceptance by its Chairman of the Doctor's Shop at Harrodsburg as a memorial to the pioneer physicians of the state who brought medical science into the state prior to 1800. The proceedings of the special session of the Association called by the President to dedicate the plaque on this memorial were published in the JOURNAL and are an important contribution to the history of Kentucky.

As was provided at the Harlan meeting, the monument to Jane Todd Crawford has been erected and it was dedicated May 30th at a called session of the Association which was presided over by the President, Dr. Howard. The inspiring program on that occasion was broadcast over Station WHAS in Louisville and received nation-

wide recognition. The Association wishes to express its gratitude to Honorable Credo Harris, the General Manager of Station WHAS, and his associates for the effective broadcast of this memorial program. The historic importance of this occasion has also been commemorated by the publication of this broadcast in the supplement to the Annual Number of the JOURNAL. The Council recommends that 1324 copies of this supplement be bound; that 50 bound copies be sent to the important medical libraries of the world, in order that the supplement may be preserved permanently; and that the remaining bound copies shall be retained for sale to those who desire to contribute to the McDowell Memorial. The cost of such binding will be about $370.72.

The work of the Committee on Post Graduate Education, under the chairmanship of Dr. Keith, is particularly commended and it is recommended that this committee be continued. Dr. Keith will present a report on this subject which will indicate its success.

The Council again desires to emphasize the importance of the preservation of the integrity of the organization of the county societies themselves, regardless of the interest that is being developed in Councilor District associations. The increase in value of these Councilor District associations is unquestionable, but it should be remembered that the leaders of the medical profession will always attend medical meetings anywhere because they realize their value. In our type of organization the affairs of each county society should be considered by its own doctors and its meetings should be held within its boundaries so that every physician in the county may have the opportunity of participating in its discussions and in the determination of its policies.

The Council desires to express its appreciation of the splendid support it has received from the organization profession of the state. It is its desire to carry through the purposes of this Association as expressed by its House of Delegates. The reference committees have been studying carefully the subjects referred to them for some time. We bespeak their careful consideration that we may continue to better serve the people of our commonwealth.

Respectfully submitted,

CHARLES A. VANCE, *Chairman.*

PRESIDENT HOWARD: That is a fine report, Dr. Vance. Is there any comment? If not, we will refer this to the Reference Committee on Report of the Council, of which Dr. Barnett Owen is Chairman.

Next is the Treasurer's Report.

SECRETARY MCCORMACK: Mr. President, the Treasurer's report has been published in full in the JOURNAL. I suggest its reference to the Auditing Committee.

PRESIDENT HOWARD: We will pass the reading of that because everyone can read it in the JOURNAL.

Next is the Secretary's Report.

SECRETARY MCCORMACK: Mr. President, permit me first to read the list of the Reference Committees so that any member of the House interested in any particular subject can confer with the Chairman of that Committee or any member of it in regard to the reports.

COMMITTEE ON CREDENTIALS: A. M. Leigh, Louisville, Chairman; S. P. Miller, Columbia; T. L. Phillips, Kuttawa.

COMMITTEE ON SCIENTIFIC WORK: J. B. Lukins, President-Elect, Louisville, Chairman; Emmet F. Horine, Louisville; A. T. McCormack, Louisville, Secretary.

MEDICO-LEGAL COMMITTEE: J. B. Lukins, President-Elect, Louisville, Chairman; Marshall McDowell, Cynthiana; A. T. McCormack, Louisville, Secretary.

COMMITTEE ON CRIPPLED CHILDREN: C. C. Garr, Lexington, Chairman; W. Barnett Owen, Louisville; Orville R. Miller, Louisville; W. M. Brown, Lexington.

COMMITTEE ON JOURNAL: Luther Bach, Bellevue, Chairman; J. S. Goodpaster, Owingsville; W. E. Crume, Bardstown.

COMMITTEE ON PUBLIC RELATIONS: Irvin Abell, Louisville, Chairman; A. W. Davis, Madisonville; E. M. Howard, Harlan; J. B. Lukins, President-Elect, Louisville; A. T. McCormack, Louisville, Secretary.

COMMITTEE ON MISCELLANEOUS BUSINESS: H. G. Davis, Marrowbone, Chairman; R. J. Hamilton, Springfield; Thomas J. Crice, Louisville.

COMMITTEE ON PUBLICITY: A. Clayton McCarty, Louisville, Chairman; Morris Flexner, Louisville; B. W. Smock, Louisville.

COMMITTEE ON SCIENTIFIC AND COMMERCIAL EXHIBITS: C. W. Dowden, Louisville, Chairman; H. K. Buttermore, Liggett; S. C. Smith, Ashland.

COMMITTEE ON MEDICAL EDUCATION: R. E. Smith, Henderson, Chairman; J. D. Farris, Richmond; H. G. Reynolds, Paducah.

COMMITTEE ON PERIODIC HEALTH EXAMINATION: Oscar O. Miller, Louisville,

Chairman; S. P. Garrison, Bellevue; E. B. Bradley, Lexington.

COMMITTEE ON HOSPITAL STANDARDIZATION: C. G. Daugherty, Paris, Chairman; W. B. Moore, Cynthiana; C. C. Howard, Glasgow.

COMMITTEE ON WORKMEN'S COMPENSATION LAW: Frank P. Strickler, Louisville, Chairman; A. M. Gross, Hazard; J. C. Nash, Coxton; C. G. Forsee, Louisville; M. D. Flanery, Pikeville.

HEART COMMITTEE: E. F Horine, Louisville, Chairman; R. E. Smith, Henderson; Austin Bell, Hopkinsville; Walter Byrne, Jr., Russellville; John W. Scott, Lexington; E. B. Willingham, Paducah; W. L. Tyler, Owensboro.

COMMITTEE ON CONTROL OF CANCER: L. Wallace Frank, Louisville, Chairman; J. Duffy Hancock, Louisville; C. A. Vance, Lexington; A. O. Taylor, Maysville; A. W. Davis, Madisonville; Paul Gronnerud, Pikeville.

COMMITTEE ON HEALTH PROBLEMS IN EDUCATION: R. E. Teague, Pikeville, Chairman; J. D. Farris, Richmond; Jethra Hancock, Louisville.

COMMITTEE ON COUNTY HOSPITALS: Paul S. York, Glasgow, Chairman; W. B. Atkinson, Campbellsville; H. H. Hunt, Mayfield.

COMMITTEE ON MEDICAL ETHICS: John H. Blackburn, Bowling Green, Chairman; W. I. Hume, Louisville; R. E. Smith, Henderson.

AUDITING COMMITTEE: D. P. Hall, Louisville, Chairman; J. M. English, Elizabethtown; R. McMurtry, Falmouth.

COMMITTEE ON RESOLUTIONS: L. T. Minish, Frankfort, Chairman; I. T. Fugate, Louisville; T. A. Frazier, Marion.

COMMITTEE ON EXTENSION COURSE: D. Y. Keith, Louisville, Chairman; Philip F. Barbour, Louisville; J. S. Chambers, Lexington; J. D. Farris, Richmond.

COMMITTEE ON WOMAN'S AUXILIARY: Mrs. J. I. Greenwell, New Haven, Chairman; Mrs. B. K. Menefee, Covington; Mrs. George A. Hendon, Louisville.

COMMITTEE ON MCDOWELL MEMORIAL: Irvin Abell, Louisville, Chairman; C. A. Vance, Lexington; Louis Frank, Louisville.

COMMITTEE ON REPORT OF COUNCIL: W. Barnett Owen, Louisville, Chairman; T. J. Poteet, Hodgenville; Jacob Schultz, Middlesboro.

COMMITTEE ON MILITARY MEDICINE AND MEDICAL VETERANS' AFFAIRS: S. C. Smith, Ashland, Chairman; E. C. Walter, Mayfield; H. E. Prather, Hickman.

COMMITTEE ON PREVENTION OF GOITER: R. R. Elmore, Louisville, Chairman; W. I. Hume, Louisville; P. C. Sanders, Danville; J. N. Bailey, Paducah; J. W. York, Canmer.

COMMITTEE ON MEDICAL ECONOMICS: A. Clayton McCarty, Louisville, Chairman; John W. Scott, Lexington; L. S. Hayes, Louisa; W. T. Little, Calvert City; A. W. Davis, Madisonville; J. W. Acton, Glasgow; A. D. Steely, Bardstown; A. M. Leigh, Louisville; J. P. Wyles, Cynthiana; Carl Norfleet, Somerset; R. L. Collins, Hazard; W. H. Pennington, London.

COMMITTEE ON PHYSIOTHERAPY: Virgil E. Simpson, Louisville, Chairman; Scott Breckinridge, Lexington; Wm. T. Briggs, Lexington; W. M. Brown, Lexington; Robert L Biltz, Newport; H. C. Herrmann, Louisville; D. Y. Keith, Louisville; Orville Miller, Louisville; Lee Palmer, Louisville; Fred W. Rankin, Lexington; Winston U. Rutledge, Louisville.

I would like to move you that the report of the Committee on Scientific Work be made the program for this session.

The motion was seconded.

SECRETARY MCCORMACK: In making that motion you understand that the time allotted for each report or paper on the scientific program is the time that must be consumed and motions to extend the time cannot be made in the general session and can only be made in this House. Of course we all realize that that is absolutely essential if the program is to be carried through, and it is for the protection of the President under the By-Laws that the motion is made.

PRESIDENT HOWARD: Do you all understand that? Is there any comment? If not, those in favor of the motion say "aye," those opposed "no." It is carried.

SECRETARY MCCORMACK: Mr. President, I have never in the rather long experience I have had as your Secretary had so pleasant a year in the operation of my office. I have had less work to do and more pleasure than I have ever had in any preceding year, because every member of the Association has seemed on his toes and has taken an amount of interest and has done an amount of work that has made it only necessary for me to stand by and observe it.

I have had the pleasure of meeting more of you in your county societies than in any preceding year, and the work that is being done by the profession in the state justly entitles it to the gratitude of every citizen of the commonwealth.

Recently one of the delegates present who also happens to be the county judge of his county, Dr. Gross of Perry County, at a meeting in his county called the attention of those assembled from that general neighborhood in the mountains to the fact that as a profession we were unquestionably doing the best work both in the prevention of disease and in its care that we had ever done, but that we were failing in one very important respect, that we were not making ourselves vocal before the organizations and people of the state so that they realized how much was being accomplished by the profession for their benefit, and he urged that before meetings of Rotary and Lions and Kiwanis and other clubs and of the women's organizations, members of the profession appear and present to them the work of the medical organization of the state so that they might be informed, and that through the proper sort of public education that can be done only in that way, we present to the people of the state concrete evidence, specific evidence, of the great accomplishments of the profession.

I think the management of this recent epidemic of poliomyelitis in the state by the profession has been one of the finest things that has ever been done, the prompt recognition, the prompt diagnosis and treatment of cases by the general practitioners of the state, not particulary in Louisville and Jefferson County, but in all those sections of the state where there have been cases, and their prompt isolation and proper care has been one of the finest things I have ever seen. There can be no adverse criticism in regard to it.

As State Health Commissioner I concede that I have no function in regard to the treatment of the disease; that is the function of the practicing physician who is practicing curative medicine, but I claim to be practicing medicine just as much as anybody, and I am just as much a doctor as anybody; the fact that I specialize in public health and don't know a great many of the things that the rest of you who are interested in the curative line do know nowadays I feel does not disqualify me in the least from being a doctor first, last, and all the time. As your representative, when this epidemic broke in North Carolina and Virginia, I made a careful investigation through the United States Public Health Service in Washington and tried to find somebody somewhere who could tell us something that would be of value to our people who might have their children or their young people afflicted with this disease, and I found that while there was a great deal of confusion and a great deal of progress in research knowledge, there was but one man in the United States who had made any positive steps toward the early diagnosis and prompt recognition and treatment of this disease and that was Dr. Rosenow of the Mayo Foundation of the University of Minnesota.

I went to Rochester and carefully investigated his work and talked to him and secured a visit from him to Kentucky. He met 1302 of our physicians in the various sections of the state where the disease exists and presented his claims to them. They are the jury that should pass on those claims. At my urgent request Dr. Rosenow consented to come back to this meeting, and he will be here in these three rooms for the next three days of the meeting with the material that he secured in the epidemic in Kentucky, showing the results that were secured in this state. I hope very much that each of you in small groups will have the opportunity of seeing what he has done, yourselves evaluating his proposals and his determinations in regard to the matter. He has developed a serum that he feels is curative. It is your function to determine to what extent, if at all, you shall use it, and how.

I think the response to the call for meetings for that purpose was one of the finest things I have ever seen a profession do. In Louisville and in Glasgow and Bowling Green and Hopkinsville and Paducah and Owensboro and Paris practically every physician in the neighborhood was present to see the demonstration and to hear the argument that was presented, and it was one of the finest responses that I have ever seen given by any group anywhere in time of stress.

The Council has covered so fully the monumental and revolutionary legislation under the title of the Social Security Act that it is unnecessary for me to say very much about it except to express the hope that each of you will personally, when you have the opportunity, say to your Congressman how much you appreciate his attitude in regard to the views of the profession in Kentucky in the principles in which we are interested in that legislation. There was no question asked by any Member of Congress or of the Senate from Kentucky except: "What do the doctors of my district and of the State of Kentucky desire in this matter?" And there was no ques-

tion at all about their attitude in regard to it.

We owe a special debt of gratitude to Mr. Vinson, the Congressman from the Ashland district, who is a member of the Ways and Means Committee and in that capacity had the opportunity of doing more for us than his confreres, because he devoted himself more energetically to seeing that the Kentucky work was recognized; he himself from his contact with his own physicians and the health departments in his own district made the best expert witness in regard to medical service and public health that appeared before the committee. Many of the most distinguished names in our profession were there, but the members of the committee themselves all said at the conclusion of the discussion of that particular phase of the subject, which took several days, that Mr. Vinson knew more about it from the standpoint of the public interest (and that is the very point Dr. Gross was covering in his remarks the other day,) that he knew what was being done in his district, and he stated that the federal money that was being expended for medical service and public health in his district was the best expenditure of federal money that had ever been made within his knowledge.

I share the President's views in regard to the socialization of medicine. Further attempts will be made in that respect. We need have no anxiety as far as Kentucky's representatives are concerned. There is no influence sufficiently powerful to secure their approval of any such legislation so long as we maintain our splendid attitude in regard to these matters for which we are responsible. I feel that we need have no anxiety about the attitude of the Legislature because the members of our Legislature are responsive to public opinion, and the constant superficial attitude of people generally toward men who are members of such a body or who are public officials is utterly unjust. I have found that the members of our Legislature and the members of our Congress represent a very fair cross-section of the public opinion and the public attitude of the state in regard to any question, and in a very long period when I have had the opportunity of being in Frankfort as your representative, I am quite sure that of the 136 members each year in Frankfort, the number who are either corrupt or not faithful public servants, the number who are not actuated by a fine spirit of public service, can be counted on the fingers of one hand. They try their level best and will do right in regard to any matter about which they are sufficiently informed, and if the medical profession will talk to the candidates for the Legislature (and I make no plea for the election of any candidate or for the defeat of any candidate.) And when they come to Frankfort will see that they know from your own mouths the professional attitude in regard to medicine and public health and will give them the evidence of what is right, there will be no danger of anybody, it doesn't make any difference whether it is a governor or an administration or anybody else, being misled or doing the wrong thing.

As long as we are right we can win our fights, and the only thing that is important is for us in our deliberations here to assure ourselves of the correct principles and of the fine spirit of service that has always actuated our profession.

I want to pay a special tribute again to a President who will retire. In the long and honorable list of distinguished men who have served this Association over these years—and he is the eighty-first of them—no man has given more largely of his time and his talents in the service of the profession than has Dr. Howard. He has devoted, I am quite confident, at least one-third of his time, and that has been true of almost every President in the last twelve, to the service of the profession.

Dr. Lukins is following exactly in his footsteps. Under the unwritten laws of the Association all the Past Presidents (and you will notice under Dr. Howard's suggestion last year they are all labeled so everybody will know them) are constantly at the service of the profession of the state; that is one of the emoluments that they get for having been elected to the presidency, and at any time that you desire to secure any service from any one of them you call on them and they will be there, without a single exception.

Dr. McChord, the oldest of our former Presidents, is not in very good health and will not be present at this meeting. I am going to ask unanimous consent that I may send him a telegram of our affectionate regard and interest in his health and welfare. (Applause)

I am also extremely sorry to inform the House of Delegates that another one of the really great servants of the profession, Dr. Jethra Hancock, for many years the Director of the Bureau of Venereal Diseases, is seriously ill, possibly hopelessly ill, and we fear that we will be deprived

of his services. Dr. Hancock is one of the great teachers of this country. I don't believe there is any other man who has been better able to acquire the necessary knowledge in the recognition, treatment and prevention of venereal diseases and to do so effective a piece of work for the benefit of the whole profession.

PRESIDENT HOWARD: I suggest that this House of Delegates send him some flowers. He is very sick and we ought to remember him.

C. W. DOWDEN, Louisville: I make that in the form of a motion.

The motion was seconded and carried.

SECRETARY MCCORMACK: We are particularly anxious that in every respect if the House of Delegates has any desire it should express it, entirely regardless of the personal opinion or feeling of any one of us who have the opportunity of serving you; we are ready to serve you in the capacity in which you dictate to us.

The plans and principles of your Department of Health, so long as I have anything to do with it, will be carried on in exact accordance with your desires. I conceive that the most important function of a county health deapartment (and I hope each of you will bear this in mind in those counties where they exist because it is the visible standard on which these departments may be evaluated) is that type of public health education that teaches the people of the county that the medical profession are their friends, that every family should have a family physician, and that the office practice of family physicians should be constantly increasing from month to month and year to year as the result of the functioning of the department. That is its most important function, because we feel if people come to their doctors sufficiently early, if they call for them sufficiently early in disease, with the present armamentarium and knowledge of the profession greater progress can be made in the care of individual health than at any other time, and chronic invalidism and the resulting uneconomic situations that come from it can be deferred.

Mr. President, we are going to be confronted—and I think we ought to be thoughtful about it though we are not yet ready to take action—under the developments in the Social Security Act with certain very definite public expenditures that to a large extent will be dependent on the degree to which the people of the state give the medical profession the opportunity for service. We are going to begin paying blind pensions in all probability after the next session of the Legislature. That means that we need to tremendously increase our interest in the prevention of blindness. The profession in those states where the blind pensions have already been adopted have found that this expenditure can be definitely reduced by definite methods, and we will want to take part in that work.

The whole purpose, the whole principle, behind the Social Security legislation is the preservation of the family, the preservation of the intact family, so that instead of having these monstrous places where we have been hiding delinquents and where we have been putting orphans away in institutions, they shall be maintained by their mothers in the home, so that the aged instead of being neglected and lost through neglect shall have just sufficient aid to enable the family with the ordinary laborer's income to keep that old person in some degree of comfort with them.

It behooves us as a profession (because it would be an idle thing if we were merely to save a great many people from dying as infants to have them become invalids in their middle age and older years) to make a more intensive study of the periodic health examination with a view to determining those evidences of normal growth and normal development that will mean increased usefulness with increased experience as people grow older.

Those serious problems are coming to us as a result of an awakened social consciousness and conscience, and they seem to me to be very important, along with the other tremendous problems that confront the profession.

Before I take my seat I want especially to ask that there be enrolled on the roll of honor of the profession the names of the physicians of Spencer County, Drs. Shepherd, Shields, Furnish, Wagner, and Branaman, who have responded so generously and so effectively in the largest epidemic of typhoid fever that has occurred in this state, the largest in proportion to population that has occurred in the United States in the last fifteen years. These men day and night have given absolutely their entire time without any regard for their personal comfort in any way, shape, or form, have seen these people, and have had a quite remarkable success in the care of a tremendous number of patients.

Your heart goes out to the people of

Spencer County. like many counties, they are poor, they have been somewhat backward, they have a splendid school system and a splendid educational system, and they are developing an effective civilization in that county. They had neglected their health environment; their sewage was emptied into the water-hole from which they secured their water supply, and it was only a question of time, as they had been warned, as they have in many other counties in Kentucky, until this would result. The first time any infectious material got in that water supply in the form of typhoid fever or dysentery or any other water-borne infection, they were bound to have just such a holocaust as they have had. It has cost them a great deal of money; it has almost ruined one of the nicest little towns in the state, and it is a lesson that needs to be made clear in every other county in the state. As a result of this catastrophe they will have a perfect water system and a splendid sewage disposal system, but they will spend more money for the purchase of typhoid fever this year than a health department and a water system and a sewage system would have cost them for all of the last twenty-five years, and that is an unwise investment and an unwise expenditure.

There are many other counties in the state that are faced with exactly the same situation, and the lesson of Spencer County will not be lost if it can be made clear to them and they take these advanced steps now instead of waiting until after some catastrophe arises.

I am perfectly delighted again to face the House of Delegates and see the large gathering we have here at the first meeting. Of course we are accustomed to it, we expect Kentucky doctors to do better than they do in any other state; I have been at meetings of the associations in all of the states of the Union but three. and there is none other that in spirit or in attainment compares with ours. The scientific work is comparable in practically all the states now because scientific standards have been so greatly elevated. but there is something about the warmth of your hearts and the cordiality of your handshake and the glow in your eyes that cannot quite be gotten in any other state, and I really feel that we are just a little bit set apart and are a little bit better than they are anywhere else, and I am glad we are. (Applause)

PRESIDENT HOWARD: Mr. Blackerby, may we have your report of the Committee on Public Policy?

MR. J. F. BLACKERBY, Louisville: The conclusions that I am expressing in this little report are drawn from my association and contact with the profession throughout the state during the last year, having attended practically every county medical society in the state at some of its meetings, the program of the post graduate courses given in the various counties, contact with the members of the Legislature, and with those people to whom we must look for an evaluation of the work of the profession and the standing of the Association with those people.

The medical profession, both state and national, have acquired a new confidence in the leadership of their executives, to the extent that I believe the profession is willing to be guided by the advice and recommendations of this representation, feeling perfectly confident that the interests of the individual doctor and the profession as a whole will be protected.

It is quite apparent that the medical profession in Kentucky has assumed a new air of security and has recovered from the hysteria that was engendered by the proposed federal legislation that seemed to foster state medicine and regimentation of the physicians into an organization that would rob every doctor of his individuality and the populace of their inherent rights to choose their own physician and method of treatment.

Those of us who represent the State Medical Association and its policies were never alarmed or in doubt as to the attitude of the state or federal authorities regarding this question. The demonstrated attitude of the medical profession should be sufficient to deter any inexperienced statesman, either local or national, from suggesting such unpopular and unwarranted legislation in the future.

Nearly everybody in Kentucky is aware and conscious of the fact that the State Department of Health is the official arm of the medical profession and as such is interested only in the health and welfare of the people of the state and to this end cannot and does not assume or exert any political power or influence over its employees or associates, and interests itself only in legislation affecting the health and welfare of Kentuckians, and the rights and prerogatives of the medical profession.

Right there I want to say in passing that

I think every member of the profession in the state ought to avail himself of every opportunity to make it perfectly clear to the elective members of the Legislature and to the state officials that whatever is done by the State Board of Health as the medical arm of the profession has the sanction and approval of and is endorsed by the medical profession, to the end that the Members of the Legislature who make our laws may understand that any proposed legislation that in any way is inimical to the State Board of Health is also inimical to the medical profession. When you get that clear in your minds and get it clear in the minds of our legislative agents, they will always think before they pass on any proposed legislation as to whether or not it is what the medical profession of the state wants and stands for, and they welcome that advice and that information, just as Dr. McCormack mentioned to you.

I believe I express the opinion of every member of the Committee on Public Policy when I state that this committee has no misgivings or fears as to the attitude of the federal authorities or the incoming state government relative to matters affecting the medical profession or public health activities. I base that statement on the knowledge that I have secured in contact with the past members and the prospective elective members of the Legislature, because they are better advised and better informed on these subjects than they have ever been before. It is a fact widely known and publicly demonstrated that all public health activities in Kentucky are sanctioned by and directed by the medical profession and all such activities are accorded the fullest support by local officials and the people directly affected, and that is really what counts when it comes to making medical and health laws.

The gradual improvement in economical conditions has so cheered the individual practitioner that he is manifesting a renewed interest in his county medical society, to the extent that membership in county societies has shown a marked increase over the past few years. Attendance is better, and fear and distrust have been replaced by a feeling of security and confidence, in the belief that federal and local authorities are relying on the medical profession for guidance in matters relating to medical service and public health organization.

The General Assembly will convene on January 1, and at this time there is no reason to believe that any legislation inimical to the profession will be proposed. It is important, however, that every member of the Kentucky State Medical Association acquaint his member of the House and Senate with the public health work that is being done in his county or district and advise such member of the fact that the public health program in his county or district has the full and hearty support of the medical profession, and solicit his support of such legislation as will insure a continuance or extension of this program.

The Committee on Public Policy solicits information or correspondence relative to public criticism of the work for which the profession is responsible, and advice concerning the attitude of any member of the Legislature who appears to have a grievance.

PRESIDENT HOWARD: Gentlemen, this report of Mr. Blackerby's is a very essential report. Mr. Blackerby acts as our contact man. I think anyone that has been to the Legislature or over the state appreciates very much that you have to have someone who contacts the men who are making our laws, and even the public. To my mind he has been very essential, but you men are the ones who set the policy of this organization, and any comment you wish to make about this, or any discussion, don't you hesitate to make, because here is the place to make it. Are there any comments? If not, we will accept this report as it has been given.

REPORTS OF COUNCILORS BY DISTRICTS

FIRST DISTRICT

V. A. STILLEY, Benton: I am sure that everyone is glad to hear the report of the Secretary that we have had an increase as a whole in the state. We are very much gratified. Your attendance here shows your loyalty, of course, and we are all very much pleased about it. It is especially gratifying to me to let you know that we have had a net increase in our Councilor District. We have district societies, we have subdistrict society meetings during the year, but we lay more stress, as the report of the Council suggested, on the county medical society. There is hardly a county in our district that doesn't have a medical meeting once a month.

We have adopted a plan, as I have said to you before, that still works well. We have the ladies of the Auxiliary in most of the county societies, and they have been successes. It is very gratifying to me that

we have had a net increase in the First District.

SECOND DISTRICT

D. M. GRIFFITH, Owensboro: Aside from the many splendid county meetings I have attended two excellent district meetings, one at Henderson and one at Greenville. In addition to the splendid membership the Second District is in first class condition.

THIRD DISTRICT

C. C. TURNER, Glasgow: According to the paid-up membership the County Society roster of the Third District is as folfows:

County	*Members*	*Non-Members*
Allen	7	1
Barren	16	1
Butler	0	6
Christian	28	10
Cumberland	6	0
Logan	12	3
Metcalfe	4	2
Monroe	1	6
Simpson	8	2
Todd	7	3
Warren	20	17
Total	109, or 68%	51, or 32%

This is almost exactly the same report as that of a year ago, the only difference being the loss by death of Dr. George W. Bushong of Tompkinsville.

A district meeting was held at Elkton under the auspices of the Committee on Extension Course. An excellent program was given by Drs. D. Y. Keith, J. B. Lukins and Jimmy Stites, all of Louisville. Another meeting and barbecue was held at Hopkinsville in honor of Dr. C. C. Howard, President of the Kentucky State Medical Association. A third meeting was held at the Community Hospital, Glasgow, at which poliomyelitis was discussed at great length by Dr. Rosenow of Mayo Clinic. All three were well attended.

These constitute the main activities of the Third District as such for the past year.

FOURTH DISTRICT

J. I. GREENWELL, New Haven: I am pleased to report that the Fourth District shows an increase in the paid-up membership over last year. The Fourth District contains nine counties, namely, Breckinridge, Bullitt, Grayson, Hardin, Hart, Larue, Meade, Nelson, and Spencer. Most of the counties have organized medical societies which meet regularly.

We had a Councilor's meeting at Bardstown, which was well attended. Also the Muldraugh Hill Medical Society, which meets at Elizabethtown three times each year, is well attended by most of the members of the Fourth District.

The post graduate course under the management of Dr. Keith held a meeting at Hodgenville, and was well attended. The members of this District are very anxious to see this work continued.

FIFTH DISTRICT

C. W. DOWDEN, Louisville: The Fifth District is composed of Carroll, Franklin, Gallatin, Henry, Oldham, Owen, Shelby, Trimble, and Jefferson Counties. The Councilor for this District begs to apologize for what may appear to be some dereliction for a very mediocre report, which, however, is to be explained by inexperience in his new office.

My first visit was to a meeting of the Shelby County Medical Society, which in my opinion will rank high, if not actually first, in all of the counties in the state from the standpoint of membership and attendance. There are nineteen members of this county society which meets once a month, usually meeting with one of the members who entertains at dinner and provides also the scientific program. The average attendance is eighteen, and there is only one physician in the county who does not belong to the Shelby County Society. On my visit the attendance was 100 per cent, although one member was called shortly after the meeting was called to order, to attend an obstetrical case. Dr. W. E. Morris, the efficient Secretary, is largely responsible for this splendid report.

Franklin County has twenty-four physicians and reports twenty active members. Two of the four non-members are sick and out of practice, one is not desirable, and the other for some reason will not join. Meetings are held monthly, except the three summer months, with an average of fourteen. They have a set program with a dinner meeting and speakers are frequently present from other sections. Dr. W. S. Snyder is Secretary.

Frankfort is to entertain the next district meeting sometime in November.

Of the seven physicians in Owen County, four members pay dues regularly. The three non-members of the state organization have been contacted and there seems little probability that they will join. There is no organized society, but the four members attend the district meetings at Car-

rollton and a plan is in the making at the present time to have the Owen County Society affiliated with the Carroll County Society. Dr. K. S. McBee is Secretary.

Carroll County has eleven physicians, four of whom do not pay dues. One, a Dr. H. T. Langston, reported from Ghent, Kentucky, is not located there nor does he live in the county. The society meets once a month with an average attendance of five. The meetings consist of round table discussions and about twice yearly they have a dinner meeting. The District Society meets at Carrollton twice yearly. Dr. J. M. Ryan is Secretary.

Henry County I hope to have completely organized within the next few weeks. There are fifteen physicians in the county, four of whom do not pay dues, but it is probable that they can be induced to join the newly organized society. Three of the members are affiliated with the Shelby County Society and are quite active. Dr. Owen Carroll is Secretary and also Secretary of the Fifth District Society.

Trimble County has only three members, all of whom are active. They of course are not organized, but are desirous of affiliating with the Carroll County Society. Dr. J. J. Gerkins is the Secretary.

Gallatin County has four physicians, two of whom pay dues. The non-members have been approached but will not affiliate. These two members are also desirous of affiliating with Carroll County.

Oldham County. Two letters have gone forward in the past year to the Secretary, Dr. S. J. Smock of Oldham County, but I have not received his report. I can only state, therefore, that out of eight physicians, in the county, only four are reported as paying their dues.

Jefferson County Medical Society has a membership of 383, with six honorary members making a total of 389. There are 218 non-members in the county. In the past year this society has lost three members by removal and four by death. The society meets twice monthly with an average attendance of ninety-one, a low of sixty-five, and a high of 150.

A word as to the Fifth District. In November, 1934, a successful meeting was held at Carrollton with speakers from Louisville and Frankfort. About forty-five were in attendance. Rather elaborate plans were made for the May, 1935, meeting held at Carrollton, hoping to attract a large attendance. The program was supplied by men of national prominence as follows: Dr. L. G. Herrman of the Cincinnati General Hospital; Dr. Fred Rankin, of Lexington, Kentucky, and Dr. Kennon Dunham, of Cincinnati, Ohio. The attendance was about fifty, far below what it should have been, but the program was very helpful and was greatly enjoyed by those present. It was voted that our next meeting would be held at Frankfort in Franklin County sometime during the month of November.

SIXTH DISTRICT

W. B. ATKINSON, Campbellsville: Mr. President and Members of the House of Delegates: Because of the resignation of Dr. McChord it was necessary to elect a new Councilor, and a misguided House at Harlan so filled the job. I have not tried to fill the place of Dr. McChord, but I have tried to work in his stead.

The District as a whole is in the most healthy condition as far as professional loyalty is concerned that it ever has been. It is through no work of mine, but through a general leavening over the whole District. It has come to a point now where any breach of ethics is almost like a Southern darkey in a bunch of Ku Kluxes—he is so prominent that you see him anywhere.

The counties of Anderson and Washington have some of the best society members in the State of Kentucky, but they have absolutely no society activity at all, so I was forced in that case to make personal visits on the physicians and have found it to be very pleasant but not very profitable.

The counties of Adair and Green have fairly well organized societies for small memberships, and the improvement there is remarkable, while the county of Marion also is showing a good deal more activity. Up in Mercer they have a very nice society. I don't know how often it meets, but when it does they have a very good program and a good time.

You will find that the Taylor County Society is the most cooperative in the State of Kentucky so far as the doctors are concerned, and the Boyle County Society is the largest and the best in the whole District. I was up there on two different occasions and I found that I had to restrain myself or I would be attempting more, and at one of the home consumption meetings up there they had two of the best papers that I have ever heard anywhere.

I believe that the Sixth District is improving because it has such good membership in it.

Eighth District

C. W. Shaw, Alexandria: Mr. President and Members of the House of Delegates: I am one of the old Councilors, but unlike Dr. Dowden I haven't learned to talk. The condition of the Eighth District is about as usual. There has been a bit more interest in the past year. Most of county societies are meeting reasonably regularly. The Boone County Society has been reorganized and has been doing fairly well. The Bracken County Medical Society is fairly well organized. The Mason County Society is doing good work, and my banner society, Harrison, is always up to top-notch. The Grant County Society is doing good work, and the Nicholas. Robertson County is a very, very small county and has hardly sufficient physicians to organize a society.

We are a little in the red in regard to our membership, but I know in my own society, the Campbell-Kenton County Society, we have eleven not in this report, so we are two ahead.

The best meeting we have in the Eighth District is our Licking Valley Medical Society meeting which is held four times a year with a very, very good attendance, and we have been able to do some post graduate work there. Last month Dr. Simpson and Dr. Brown were at Vanceburg and we had a meeting there. We meet in different parts of the District with an unusually good attendance and are able to reach some of the doctors that possibly we would not be able to reach otherwise in the county society meeting.

Ninth District

S. C. Smith, Ashland: The Ninth District has gained quite a few members over last year and the active county societies are in a very healthy state.

Boyd meets regularly except during its summer vacation. Carter meets regularly and they have something to do and a very good time and excellent fellowship. I spent an evening with them over there. They meet usually in each other's homes and they all seem to have a good time. Elliott has only one member; they can't maintain an organization out there. Floyd is the outstanding county so far as growth is concerned, in the District. It took a spurt and they are very active up there. I hope they keep it up. I was up there a few weeks ago and they showed a great deal of interest in their county society and I believe that their future looks bright.

Greenup also meets regularly and they have about all of the available doctors in their society that they can get.

Lawrence is also very active. Lawrence gets along fine. They have most of their available men.

Lewis is one county that I can't get any response from. I have written them, talked to them, and they won't even notify me when they are going to meet if they do have a meeting. I don't know what I am going to do with it.

Magoffin is just like a forest fire. It will break out and seem like it is going places and all of a sudden it will die down. It takes a doctor and an undertaker both to look after that county; part of the time it is alive and part of the time it is dead.

Martin only has one or two doctors in the county and they can't have a successful society.

Pike lost some of their members this year. I think some of them moved into Floyd County, and as a result their membership is not up to what is was. They meet occasionally. It is difficult to get them to meet regularly up there.

Tenth District

C. A. Vance, Lexington: Mr. President and Members of the House of Delegates: According to the membership for 1935, the Tenth District has 251 paid-up members. The County Society Register is as follows:

County	*Members*	*Non-Members*
Bath	8	3
Bourbon	18	6
Breathitt	7	1
Clark	18	8
Estill	6	1
Fayette	104	29
Jessamine	8	5
Lee	3	2
Madison	35	3
Menifee	1	0
Montgomery	10	2
Morgan	2	6
Owsley	1	1
Powell	3	1
Rowan	7	1
Scott	12	5
Wolfe	2	4
Woodford	6	4
Total	251	82

The above register shows that we have gained a few members. This is the largest paid-up list we have had in the district for five years. There were 208 paid-up members on the April list which was sent out from Louisville and some of the doctors this year were very slow in paying

their dues, but I am very pleased to report to the House of Delegates that we have done so well.

Bath, Estill, Jessamine, Lee, Menifee, Morgan, Montgomery, Owsley, Rowan, Powell, Wolfe and Woodford Counties hold occasional meetings.

Bourbon, Breathitt, Clark, Fayette, Madison and Scott hold regular meetings and these are all well attended and the programs are instructive.

The Madison County Society were hosts for the District meeting and Dr. L. C. Coleman headed the program and entertainment committee, and afternoon and evening sessions were held. The papers presented were excellent and there was a large attendance at both of the meetings. The dinner was held at the hotel and there were about 125 present.

The Tenth District suffered by death the loss of eight members, a much greater number than for many years:

Dr. S. C. Alexander, Salt Lick, Kentucky, who has been practicing for more than fifty years and has been an active and valued member of the Bath County Society for many years.

Dr. Waltes Cox, Irvine, Kentucky, who practiced in Fayette County, moving from there to Irvine where he was the most regular attendant at the society meetings and was its secretary. He will be sadly missed by the Estill County Society.

Dr. Seth Conway, Sharpsburg, Kentucky, who for many years was a valued member of the Bath County Society.

Dr. C. W. Garrison, Lexington, Kentucky, who moved from Arkansas to Lexington, Kentucky, where he was a most efficient City Health Officer.

Dr. John C. Lewis, Lexington, Kentucky, who had practiced in Lexington and been a member of the Fayette County Society for more than thirty years and was beloved by all with whom he came in contact. He was the son of Dr. John A. Lewis of Georgetown, Kentucky, who was a former president of the State Medical Association.

Dr. W. N. Offutt, Lexington, Kentucky, a well known eye, ear, nose and throat specialist who practiced in Lexington for more than thirty years. During that time he was a member of the Fayette County Society and also a member of a number of the national societies of his specialty. He was a most lovable character and was greatly beloved by his friends and patients and will be sadly missed by all.

Dr. W. R. Thompson, Lexington, Kentucky, who was in the state hospital service in Lexington. He formerly practiced in Montgomery County and has been a member of the Fayette County Society for the last ten or twelve years.

Dr. J. S. Wallingford, Paris, Kentucky, who has been a member of the Bourbon County Society for many years.

These men were all active and loyal members of their county societies and State Association, and I am sure their presence and counsel will be greatly missed.

I am again urging the members of every county society to select the best man available for secretary. The secretary is the most important officer of any society and if he is a good one the society will be prosperous and enthusiastic. I am especially interested in the welfare of the individual county society. Of course, I know that the district societies are important, but the important unit of the State Association is the county society and I believe everything should be done to improve that and I think we all should work to that end.

PRESIDENT HOWARD: Reports of Delegates by Counties.

BARREN COUNTY

J. W. ACTON, Glasgow: I have no written report. I am of the opinion that we have fifteen paid-up members in the county. It is either fifteen or sixteen. We are not meeting very often, however.

PRESIDENT HOWARD: We consolidated our meetings with the staff meetings and we meet each month.

J. W. ACTON: We are all getting along very peaceably and I think doing very well when we do meet. We have some very good programs when we meet. Last year we had a meeting at which we had a very inspiring program. We generally have some very good meetings when we have just our local men.

BELL COUNTY

R. F. PORTER, Middlesboro: The Bell County Medical Society has been active throughout the year. We have had regular monthly meetings with programs rendered at each one.

We have at the present time twenty-one members. This is an increase in the number of members over last year, just how much increase I do not know. We have six practicing physicians in the county who are not members.

The county society was responsible for the re-establishment of a county health unit, which had been suspended for the

last few years. The county took this up because they felt it would be a help to the physicians as well as the people.

The physicians as a whole in the county resent the fees that are paid by the Kentucky Emergency Relief Administration; better fees are paid next door in Tennessee.

The society this fall expects to sponsor a meeting of the Southeastern Kentucky Medical Association.

Caldwell County

F. T. Linton, Princeton: It takes something entirely out of the ordinary in Caldwell County to get our doctors to have a meeting, but we have had, I think, about three. We have about thirteen licensed physicians in the county, two of whom are retired, with ten paid-up members. We have no trouble getting the men to join the society, but we just fail to work up enough interest.

We have had three meetings, one of which was to discuss relief measures, another one was to discuss the diphtheria campaign. I want to say a little bit about that diphtheria campaign. They adopted resolutions about that. We requested the State Board of Health to furnish the practicing physicians with the vaccine, and they were to administer it to all patients who came to them whether they were able to pay or not. I am very sorry to report that that was a grand failure—it just didn't work.

We have another suggestion along that line, and that is the Health Department might put on a more active publicity campaign for this thing and it probably would help the county.

Calloway County

E. B. Houston, Murray: Our secretary has been sick a few days and I have no written report to make from Calloway. I think every member of Calloway County is a member of the county society and the State Medical Association except possibly one, a very aged physician.

Our meetings are supposed to be held monthly, but we don't meet that often. We have had some three or four meetings in the year.

The Southwestern Kentucky Medical Association at its four meetings in the west end of the state is well attended and seems to sap the interest of the smaller societies or the county societies, but we are moving along pretty well and have a very fine program when we do get together.

Campbell-Kenton County

Luther Bach, Bellevue: The following is the secretary's report:

"As Secretary of the Campbell-Kenton County Medical Society I beg to submit the following report beginning October 1, 1934, and ending October 1, 1935.

"Number of paid members, 44, from Campbell County. 51 from Kenton County.

"Number of meetings held, 21.

"Average attendance, 27.

"Number of papers read, 27.

"Number of out-of-town speakers, 9.

"Number of home speakers, 18.

"Number of deaths, 2 (Dr. B. K. Menefee and Dr. S. Wamsley.)

"Number of new members, 2.

"The society approved the communicable disease program which is being carried out by the Metropolitan Life Insurance Company.

"The Society held one meeting with the Kentucky Northern Pharmaceutical Druggists' Association, and one with the Northern Kentucky Dental Society.

"A resolution was adopted and copies of the resolution were sent to the various papers and all towns in Northern Kentucky regarding the practice of cities in Northern Kentucky calling upon fire and police departments to administer oxygen with a pulmotor in cases of emergency without the advice and cooperation or previous examination of a physician.

C. A. Morris, Secretary."

The other officers of the society are John Todd, President, H. C. White, Vice-President, and J. D. Northcutt, Treasurer.

Christian County

M. A. Gilmore: The Christian County Medical Society continues to be active throughout 1935. There are a total of forty physicians in Christian County, and of this number six are not in active practice and twenty-nine are members of the state and county societies. Two of the men have come in since the closing of the membership lists for the current year, and they are not included in the list of members. We have seven associate members. Of the active men in our county there are only five not members of the society, and of these three are located in the Western State Hospital.

There have been two deaths of members of the society within the past several months.

The society holds monthly meetings in

Hopkinsville, Kentucky, on the third Tuesday of each month, and the average attendance at each meeting has been thirty-seven. No attempt has been made to put on a seminar or regular course of instruction, but at each meeting there has been a scientific program with guest speakers from surrounding cities. An attempt has been made to correlate speakers' subjects at these meetings, however. One social meeting of purely frivolous nature is held each year for the purpose of stimulating the spirit of fellowship among our members and those from surrounding counties. This year this meeting was in the form of a barbecue to compliment our President, Dr. C. C. Howard. We believe that it was a success, even though the golf tournament held in connection with the barbecue could not break a hundred.

There is no report to be made concerning the activities of the auxiliary, for the simple reason that there does not exist an auxiliary. Organization of this important adjunct to the society has failed each time it was tried in the past two years. Any suggestions as to how to organize that auxiliary will be appreciated. Individual physicians' wives, however, have organized and supervised several crippled children's clinics and assisted in their follow-up treatment.

We are sorry to report that this year has seen the closing of the nurses' training school at Jennie Stuart Memorial Hospital in Hopkinsville, Kentucky. This is the only hospital in Christian County for the general treatment of the public, and the loss of the training school will be keenly felt.

The county does not possess a full-time health unit and endeavors to organize such a unit have not met with success. Recently we had a mild epidemic of poliomyelitis which clearly demonstrated our need for such an organization.

CLINTON COUNTY

BRUCE SLOAN, Albany: I am a kind of by-product over in that part of Kentucky that used to be Tennessee, so my membership has been retained through the generosity of the Clinton County Society and the Kentucky Society in this organization. Also, I belong to the Tennessee organization. I am glad to report for Clinton County as a pinch-hitter, so to speak.

We have five licensed physicians, and speaking from memory I think they are all paid up. We have two unlicensed doctors. I think one of them very recently retired through old age and debility and the other became more active.

We have had three or four meetings. Cooperation among our physicians has been good. It is more like a prayer meeting, though—you always pray when you get in trouble; when something comes up that we think we need a meeting we go on in time of stress and have it. We have had three or four excellent meetings.

We have a health unit which has functioned efficiently and well.

FAYETTE COUNTY

JOHN W. SCOTT, Lexington: Fayette County has 104 members, which according to Dr. Vance's report, is just half of the members in the District. We hold regular monthly meetings in which good scientific programs are presented, always by members of our own society. I think we may be extreme in that but it has been the rule for many, many years that the program shall be supplied by our own members. I think we miss a great deal not having distinguished a n d interesting speakers from neighboring societies, but after all we do stimulate the work of our own members and it stimulates them to go to these cities where they get a great deal more than they would by having one of these distinguished gentlemen come to our city.

There was one additional meeting, a dinner meeting in honor of Dr. Bradley, one of our members, who has been elevated to the post of President-Elect of the American College of Physicians, the most distinguished honor that has ever come to one of our members, I think. (Applause) A dinner was given to Dr. Bradley in June, which unfortunately we had to limit to our own membership for the reason that if we went out asking his friends to come we would have had to ask the whole state and we had no facilities that would accomodate such a gathering as that. (Applause.)

There are about 29 practitioners who are not members. That, however, includes ten internes who, of course, cannot be expected to join the medical society, and includes a good many men in the hospitals, like the veterans' hospital and the narcotic hospital, some of whom have joined with us but some have not. I don't know the exact number, but I think very, very few practicing physicians, not over a half dozen, I should say, in the city are not members. Some of those have been denied membership by our active and criti-

cal—not too critical but sufficiently critical—board of censors, and a few on account of inability to pay the dues.

FLOYD COUNTY

L. H. WINANS, Ashland: I asked our secretary if there were any facts that he wanted presented to this meeting and he said there weren't, so I guess I can say almost anything I would like to say.

Our meetings are once a month. I think we have something like thirty-five members. We don't have a very good attendance. I think we spend too much time probably quibbling over things that are no use and not getting down to things that are of real value. Also it seems to me sometimes that our membership in our state and local societies comes too easy. By paying five dollars we are a member, whether we are active or whether we are not.

I was glad to hear Dr. Keith say that in the next extension program they were expecting to put on symposiums, because I believe that will meet the general need better than in the past. We enjoyed our meeting this year very much, and we had a real good attendance.

I think the Boyd County Society is in the usual state.

FRANKLIN COUNTY

L. T. MINISH, Frankfort: This report was handed me by the secretary just before I came down here:

"The Franklin County Medical Society had eight regular meetings and one special called meeting during the past year. No meetings were held during the three summer months. The regular meeting due in November was not held, since it conflicted with the date of the Fifth District meeting at Carrollton."

"This year we have gone out of the society mostly for our programs and have had outside men. Heretofore we have been furnishing most of our own programs.

"Guest speakers at the above meetings were Dr. Fred Rankin, Lexington; Dr. Leon Solomon, Louisville; Dr. Virgil Simpson, Dr. A. P. Markendorf and Taylor Hoskins of Louisville; Dr. Carl H. Fortune, Lexington; Dr. Oscar Miller, Louisville; Messrs. Adolph M. Davis, M. W. Marshall and George C. Roberts of Frankfort. Papers read were (1) Duodenal and Gastric Ulcer; (2) The Medical Profession of Kentucky Must Not Countenance Modern Day Conception of Birth Control; (3) Hypothyroidism; (4) Thyroidectomy for Endemic Goiter, and (5) Tuberculosis.

"Under the auspices of the State Pharmaceutical Association Committee, papers on U. S. P. and N. F. Pharmaceuticals were given, and these were supplemented with an elaborate exhibit. All registered pharmacists in the county attended that meeting.

"The Retail Merchants Association of Frankfort is endeavoring to 'make the doctor a better business man, and this organization sent representatives to one of our meetings. Their talks endeavored to convince the physician that there should be a sharper line of demarkation between the clear-cut charity case and the dead-beat who wouldn't pay any doctor's bill, and that doctors could and should collect more accounts due them.

"There were no new members added this past year. The society lost by death Dr. G. H. Heilman. The total membership now stands at twenty-one.

"Officers for the year have been Dr. M. C. Darnell, President; Dr. E. W. Frymire, Vice-President; Dr. W. S. Snyder, Jr., Secretary-Treasurer, and Dr. L. T. Minish, Delegate."

FULTON COUNTY

HUGH E. PRATHER, Hickman: Our secretary told me before I left home that we have had six or eight mighty good meetings. We had some visiting doctors who made those meetings all the better. We had Dr. Hendon, Dr. Virgil Simpson, and we had two doctors out of Memphis, two outstanding men, at one of our meetings.

Everything is love and harmony with us. All have paid their dues except three, to be definite, and they would pay if we would go after them hard enough.

GARRARD COUNTY

J. E. EDWARDS, Lancaster: Garrard County has 100 per cent practicing physicians paid-up members in the society. Of course, there being only a few of us we can't have a very good scientific program, but we have business meetings and we do have meetings in the surrounding towns. Dr. Vance had a Councilor's meeting at Richmond and all the doctors in Garrard County attended. Most of our doctors attended the meeting at Somerset, and also attended the cancer clinic at Somerset. Most of the doctors attended the cancer clinic at Harrodsburg. We also attend the Fayette County Medical Society meetings and some of the other meetings that are held in Lexington quite often. We are very glad to be able to go to those meetings.

We lost one doctor in our county last year, a man you all know and love, Dr.

Elliott. Dr. Elliott, after having fought diabetes for a number of years, and having lost both feet, sustained a fractured hip and cerebral hemorrhage, finally succumbed. I went to see him not long before he died, and he said, "Well, Doctor, how much can a man stand?" After having diabetes, gangrene, losing both his feet, having a fractured hip and having a cerebral hemorrhage, he had just recovered from coma and was having acidosis. Dr. Elliott was a great man.

Our society voted unanimously some time ago to refuse to accept any cases at all under the relief administration, not because of the fee but because of some of the clauses in the instructions sent out by the relief administration requiring the local relief administrator to decide when a patient needed a doctor, when the doctor had rendered sufficient service, and how often and how frequently he might attend that patient. They didn't go so far as to state the kind of medicine that should be administered to a given patient, but they will in the next few years if we adopt their system. (Applause)

GRANT COUNTY

N. H. ELLIS, Williamstown: The Grant County Medical Society was composed of thirteen members, but one of our faithful members, Dr. C. D. O'Hara, died suddenly on the night of September 17 of cerebral hemorrhage. We now have twelve members, which is every doctor in the county. Our meetings have been held on each third Wednesday night in the month, with an average attendance of about seven. We have very interesting programs with occasionally a visiting essayist. Our society has maintained a 100 per cent membership for the past four years, which is largely due to our faithful secretary, Dr. C. A. Eckler, who has never missed a meeting.

GREENUP COUNTY

H. T. MORRIS, Greenup: We have eleven physicians in Greenup County, including the health officer. We have eight members in our society. We hold regular meetings except in July and August. Our meetings during the past year have not been altogether satisfactory. The number in attendance ranges from three to a full membership; more often we have from three to five, which is unsatisfactory.

HARDIN COUNTY

C. F. LONG, Elizabethtown: I do not have a written report. I did not expect to come as a delegate, but Dr. English this morning said he wouldn't be here and I didn't think Hardin County ought to be left out when they were only fifty miles from Louisville.

We have regular meetings each month except the month that the Muldraugh's Hill Medical Society meets at Elizabethtown, which is three times a year. Our meetings are well attended by the doctors. They usually have case reports and talk over their problems with one another. We have seventeen practicing physicians in Hardin County and have eighteen members in our society. I suppose you wonder how that happens, that we have one person more. We have one member who belongs to the Hardin Medical Society and a Society in South Carolina. We have one doctor in Hardin County who is practicing who does not belong to the society.

We are still fighting with Dr. McClure down there to keep down charity work, and trying to impress upon the people that they can pay for their work if they really try to, that if they are able to have money to go to picture shows and other amusements they can pay for the doctor. The doctors try to stick together; in other words, we talk over these cases that try to beat every doctor, and when a case like that calls we ask them what is wrong with their other doctor. In that way we have a good check on the dead-beats. We do take care of the real charity cases without any question, but there is not a doctor in Hardin County who doesn't try to hang with the others when it comes to dead-beats. We are correcting that down there. Our income is increasing in the last two years by about twenty-five per cent. I believe if the doctors in all the counties would stick together that way those people would pay if they knew they had to pay.

HARLAN COUNTY

S. H. ROWLAND, Cawood: Our society has met regularly each month during the year with the exception of the summer months. We have had a pretty fair attendance. At each one of these meetings we have had a couple of scientific papers from members out in the state. We have thirty-nine members paid in the society, and I didn't get from our secretary whether we have any members who are not paid. We took three new members into the society last year. We lost one member, Dr. James H. Short, by death. Dr. Short had practiced in Harlan County for a good many years.

HARRISON COUNTY

DR. W. B. MOORE, Cynthiana: During the past year the Harrison County Medi-

cal Society held twelve meetings with an average attendance of 17 2-3, the smallest attendance being 10 and the largest 34. We have had guest speakers from Lexington, Cincinnati and Paris during the year. We had twelve papers and lectures and fifteen case reports.

The society was host to the Licking Valley Medical Society in June, at which time seventy-five doctors were present. Our membership is now seventeen, an increase of one.

Every physician in the county is a member of our soicety with the exception of one who on account of declining years has permitted his membership to lapse.

Interest has been perhaps at a higher level than at any time during the organization of the society. So far as I know there is no ill feeling among the physicians, all being congenial and agreeable.

Up to this time the society has not taken kindly to the government relief as organized and we have attempted to and have succeeded in caring for the indigent, as we have always done, without remuneration from the county, state, or government.

SECRETARY MCCORMACK: Mr. President, let me call one thing to the attention of the Delegates about Harrison County. Of the counties in the United States that have more than ten physicians, Harrison County has had the most meetings and the highest average attendance over a period of thirty-four years, to my personal knowledge. I think that is one of the most interesting and remarkable records I know anything about. The high character of the physicians of Harrison County is attested by that fact.

HENDERSON COUNTY

R. E. SMITH, Henderson: Mr. President and Members of the House of Delegates: I have a partial report from the secretary. Henderson County has nineteen active physicians and sixteen paid-up as members of the medical society, one retired, one public health officer, and one C. C. C. physician.

We lost one member by death, Dr. Mosely.

The papers are written by the members of the society. We tried for several years to see if we could get interest in the society by bringing physicians from the neighboring cities and even from outside of the state. We failed utterly. But for the last two years the meetings have been far better attended. At some of them it looked like the elements were determined that we should not meet, for three of the worst storms we had during the year occurred on the nights we were having our meetings, and strange to say we had over ninety per cent of the members present.

We had one special meeting called due to the death of Dr. Mosely; another special meeting was held with the druggists and the city and county physicians; another was a meeting with the federal relief agents to discuss the work being done in Henderson County and also in the City of Henderson. Henderson County and the City of Henderson maintain, I think, one of the best services for the indigent of any county in the state. Dr. McCormack can correct me if I am mistaken.

SECRETARY MCCORMACK: I don't think there is any doubt about it.

DR. SMITH: For that reason we were able to tell them that we did not need relief except in certain instances, and the physicians of the county and of the city maintained the same attitude which they have always done, which was to do what was possible and when necessary. The city and county both pay for the care of their sick. They have their regular contract with the Henderson Hospital.

In March we had a meeting of physicians and druggists of Henderson County and other adjoining counties. Dr. Virgil Simpson spoke, and also two representatives from the Kentucky Pharmaceutical Association.

In April, discussion of federal relief, and resolutions were presented to the society. That was the second time that we failed to take up federal relief, with the exception of two men in the county who felt that they were entitled to it, so the society allowed them to go ahead and do this work for the federal relief board.

In May, the fee suggested by the federal relief board was discussed and resolutions were drawn up, again turning it down.

In July we met with the local and district relief directors and then came to an agreement to help the county in the work that this relief administration is trying to bring about for Henderson County.

We have had regular meetings with papers read by the members of the society.

HOPKINS COUNTY

A. W. DAVIS, Madisonville: Mr. President, I wasn't supposed to be a delegate here. There is nothing for me to report. I told the secretary before I left that he was to designate someone else as delegate. We are getting along down there in Hop-

kins County, but I don't know anything definite to report.

JEFFERSON COUNTY

A. M. LEIGH, Louisville: I can't give you any definite report because I did not know I was going to be called on, but I think they have the largest paid membership now that they ever have had; it is close to 400. There has been quite a good deal of interest manifested, and the medical finance committee has done quite good work. Now we are trying to separate the sheep from the goats, in that we are trying to get a list of the can't-pay and the won't-pay from the credit rating bureau. Quite a number of the doctors have turned in their lists to this credit rating bureau, but of course it hasn't been in existence long enough to tell whether or not it is going to be a success.

LAWRENCE COUNTY

L. S. HAYES, Louisa: Lawrence County has ten licensed men, one of whom is our county health doctor. Out of that number we have eight paid-up members. The health doctor is the secretary of our society.

Our fellowship is splendid, but it seems it is very, very hard to interest the men through our local talent. I have wondered if it would be possible or advisable for the State Association to arrange to have routine visits from some members of the State Association who could give us good, instructive papers and who could meet with us at our regular meetings, possibly not every time, but at least every second month. In our section at least I think it would stimulate interest and would be a worthwhile proposition.

SECRETARY MCCORMACK: Will you see that Mrs. Hayes furnishes those chickens and biscuits when they come? I'll come every other month myself.

L. S. HAYES: Our Ladies' Auxiliary will do that; they are not particularly active there, but they will do that. We will see that you have a yellow-egg chicken every time you come.

That is a suggestion I would like you to think about, because I really do feel that would be a thing to help these counties with such a small membership. In a place where you have a large membership it is easy enough to produce your own programs, and interesting programs, too.

We had a malpractice suit there that attracted quite a little bit of attention, one reported it last year at the Harlan meetin which we were very much interested. I ing. At that time it was under consideration. We succeeded in winning that with a unanimous verdict from the jury, and, gentlemen, the public came over our way from the very beginning of that trial; the farther the trial progressed the more intense the public sentiment became in our favor, until when the trial was over that man was almost ready to be shooed out of town. It was really gratifying the way the public came around to us.

The cooperation between the doctors there is excellent. We are caring for our charity patients as we did before. We are not letting anybody suffer particularly, but we do let some of those birds think they are not going to get help if they are just sorry. I am sorry to say, gentlemen, that this relief has made a lot of them a hundred times sorrier than they were before We don't feel that this relief has helped, but on the other hand it has hurt.

The county court has been induced to pay $3.50 a day for the hospitalization of any patient that the members of the court may be convinced is absolutely indigent. I made that proposition myself to the court, for this simple reason: that we wanted to care for those patients, we didn't want them to worry with this relief proposition and have their hair turn gray if they happened to have any; we wanted to take care of them ourselves if we were able to do it; Lawrence County was not on starvation and never had been; although the President and the people at Washington had been led to believe we were starving by thousands, it was absolutely false and we had lied to them; so I took that up with our court and I said, "If you find any man, woman or child in your district that is indigent, that needs hospitalization for operation or what-not, if you will send them to me I will take care of them for $3.50 a day and that will cover surgery, medicine, and anything that has to be done for them." They finally took me up on that and they have been very well pleased with the results so far. One member of the court in particular fought it, but he had occasion to send his sister in with a ruptured gall bladder and she was taken care of promptly and now he is well pleased with that program. That doesn't make me any money but it does defray my expenses, and that gets them out of the way and I don't go in the red by being very careful and economical.

I believe that in every county if you could get a small hospital either owned by

the county or by private physicians (and I say private hospitals are better because when you get publicly owned institution you always get a certain amount of graft and waste, as you might know by the fact that it costs the government $7.50 a day on an average to pay for its patients) you could follow that same plan. I would be glad to build four or five hospitals and run them for less money than the government does and make money. A lot of you may think you can't run a hospital in your town, but if you get down to it and are economical I think you can do it and your community will be a lot better off. You can care for a lot of those things and not have the patient transported a long distance.

We need one or two more men in our county. We have lost two doctors in the last few months. We lost two by death and some have moved away. There is a large section of our county that is not very well cared for only as the people come into the office, but thanks to the increase in good roads, more people are being educated to come to the doctor's office for treatment, which I think is the big solution to our problems in the care of our rural patients.

McCracken County

H. G. Reynolds, Paducah: Our secretary sent the following report: "Aside from one sad incident the Society has had a splendid year. We regret to report the loss of one member through death, a distinguished brother physician, Dr. J. T. Reddick, a former President of this Association." We also lost another ex-President, Dr. Phil Stewart.

"The society meets monthly with the exception of the three summer months. This year we have adopted a plan of program which has improved the attendance at meetings and revived an interest in the society. Briefly, this program consisted of the appointment of a program committee of three who attempted to plan a year's work so that there would be no repetition of subject matter, also that the chief fields of medicine would be represented and that each member might have an opportunity either to present a paper or to act as a discussion leader. This plan necessitated the adoption of a ruling for one year to the effect that all programs should be presented by members of the society. The previous three or four years our program had been most interesting, as we had attempted to bring outstanding members of the profession to our club. These men always had a real message, yet by such a plan we were failing to develop writers and speakers among our own group. This does not mean that the society attempts to isolate itself, for we have had on special occasions during the year interesting programs by physicians who were not members of the society. An example was a very interesting and timely visit of Dr. Rosenow on the subject of poliomyelitis.

"Our membership numbers forty-four, and the spirit of the society is excellent."

Our District Society, the Southwestern Kentucky Medical Association, held its sixty-sixth annual meeting last May, and I think that is one of the oldest district societies in the state, if not the oldest. We have made our annual meeting a post graduate meeting every year. At that time we have invited guests, and that is the only time we invite speakers from outside to any of our meetings.

We have a quarterly and a semi-annual meeting of that same society. At these meetings the program is made out by the program committee and we try to select men in the county where the meeting is held to fill out the program; in other words, we try to stimulate activity on the part of the local men to do work that they should do.

I was unfortunately unable to attend the meeting held by Dr. McCormack and Dr. Rosenow at Paducah, but I understand there were eighty men present, and those that I talked to afterwards were very enthusiastic about the worthwhile material Dr. Rosenow brought to them.

We have recently organized an all-time health unit, and no little credit is due to our Secretary for stimulating the interest on the part of the laity and on the part of the county and city officials to re-organize this unit. I have been told by Dr. Stilley that he expects to make a model of McCracken County and Paducah. We have three doctors on that health board: Drs. Jackson, Willingham, and myself, and the county judge and the city manager are the other members.

McCreary County

A. Stacy, Pineville: I am representing McCreary County, though I am not any longer a member of the society, having been transferred to another county.

The McCreary County Medical Society has been active throughout the year, with regular meetings. There are at present seven active members, two non-members practicing medicine.

I might say that the society, with the aid of a lawyer from the State Board of Health, is responsible for the cessation of the practice of medicine by two non-licensed charlatans, by securing an injunction against these men who were illegally engaged in the practice of medicine.

The society has been active in its wholehearted support of the health department in that county, especially in its health education program.

MADISON COUNTY

J. W. ARMSTRONG, Berea: There are at the present time thirty-six active physicians in Madison County. Thirty-three of these are members in good standing of the Madison County Medical Society. Two of our active members, Drs. J. L. Blevins and W. R. Combs, just recently left the county to practice elsewhere. One physician of the county, Dr. L. J. Jones, has died during the year. This makes a total of thirty-three active members, physicians not members three, two physicians moved, and one physician deceased.

This is a much higher percentage of active members in our society than has been the case in years previously.

We have had seven regular meetings of the Madison County Medical Society this calendar year, July and August meetings being omitted as usual, due to vacations of so many of the members.

Our society acted as host to the Tenth Councilor District at its regular May meeting. The district meeting at Richmond was attended by some ninety-odd members of the district, eighty-five attending the dinner between sessions of the meeting.

Essayists from Louisville were followed by discussions led by Lexington and Madison County men. Many men present stated that the meeting was the best district meeting of the year.

Interesting programs have already been arranged for the three remaining meetings of the year.

MARSHALL COUNTY

W. T. LITTLE, Calvert City: Marshall County has fourteen physicians, twelve active, and two retired. This is the same number as last year, though one physician moved to another county and one physician came in. This year we have eight paid-up members of the county society as compared with nine last year.

The society meets monthly each third Friday night of the month in conjunction with the Woman's Auxiliary, which is very active.

Due to serious illness in the families of several members during the past year, the society held only eight meetings.

The relationship between physicians in this county is practically 100 per cent. We stand as a unit against state medicine and prevailing federal relief fees.

We support our county health unit and have authorized immunization for all, physical examination of all school children, and venereal or other treatments requested by the patient's physician.

After four years' trial we believe this plan brings to the public a greatly lessened morbidity and mortality rate, with a lessened amount of work and an increased income for the physicians, due to the large number of physical defects found during routine county health examinations and referred to family physicians which otherwise would have been neglected, due to the hesitancy of the public to go to the family physician for early examination, for which charges would be made.

All programs rendered are by members of the local society.

OHIO COUNTY

OSCAR ALLEN, McHenry: I don't believe we have but six paid-up members from Ohio County this year. There are about thirteen active physicians. We are not meeting very regularly. I think when we get better roads perhaps we can do better. We are getting those, and I feel our county society can do better work in the future.

PENDLETON COUNTY

J. M. BLADES, Butler: Pendleton County several years ago was a 100 per cent society. At that time they had some eighteen members. I am sorry to say at the present time we have about eight physicians in the county, four of whom are disabled or superannuated, retired, and therefore we have only about five members we can count on. Whether they are all members of the State Society I do not know.

We have been unable to have any meetings for the last several years. We can't create enough interest among four or five members. We have had the Licking Valley Medical Society meet with us two or three times. While we can't have meetings of our own society, we do make an effort to attend the Campbell-Kenton Society meetings, also Harrison.

PERRY COUNTY

A. M. GROSS, Hazard: Perry County has thirty-seven practicing physicians, thirty-four of whom are paid members in

the society. They meet twelve times a year, once each month, the second Monday in each month, with an attendance of around twenty to twenty-five men. The local men write the papers. We have one paper every month, read by one of the local men. We have two meetings a year that are called ladies' night when our wives, sweethearts, mothers or sisters are invited. We usually have outside speakers at those meetings.

SECRETARY MCCORMACK: And chicken.

A. M. GROSS: We think we have a very good society in our county. We support our health department. I have heard of some complaints in some of the counties about not getting cooperation from the health department. We have never had any trouble about controlling our health department and keeping it in its proper place and we stay in ours. Our health officer is a member of our society, one of our best members.

We lost one member by death during the year, Dr. Grant, who was one of our most competent practitioners, for which we are very sorry.

PULASKI COUNTY

M. C. SPRADLIN, Somerset: The Pulaski County Medical Society has fifteen members who have paid dues for 1935. There are six other physicians in the county, but those that are non-members are almost inactive. The society has lost by death two members, Drs. S. G. Cain and T. J. Acton. Six meetings have been held since the first of the year, and attendance has been greatly improved by a new policy of having at least one guest speaker for each meeting. The society sponsored the program by your Cancer Committee at a dinner to which all the physicians of the Seventh District were invited. The society was host to a meeting of the Seventh District Medical Society on May 9.

We have been quite active in attempting to combat the activities of the unlicensed practitioners in Pulaski County. We have obtained, with the help of the attorneys for the State Department of Health, restraining orders against these men, and have prosecuted one of these men for a violation, obtaining the maximum sentence of a thirty dollar fine and thirty hours in jail. This is the best that we were able to get because it is impossible, on account of public opinion, to get a jury conviction. We are fortunate in having the support of the county officials in this matter, however.

SHELBY COUNTY

W. E. MORRIS, Shelbyville: I don't know that the Delegate of Shelby County can add anything to what Dr. Dowden, our Councilor, has already said, but I can say that we have thirteen regular practitioners in the county, all of whom but one are paid. We did have fourteen, but one has moved to Jefferson County. We have a ruling that if any county can't support a medical society, we take them on.

We meet the third Thursday evening of each month. We have all the membership arranged alphabetically, and the secretary of the society tells each member when it is his time to entertain. He furnishes the scientific sheet and the social sheet, and we meet every month except two.

TAYLOR COUNTY

C. V. HIESTAND, Campbellsville: The delegate, due to the fact that his grandmother died this morning, was unable to attend, so I will make a brief report as alternate. Taylor County, as you know, is one of the smaller counties of the state. We have only seven active doctors in the county, and they are all members of our county society. We have one other physician who is not active who resides in the county, and we have a doctor from a neighboring county who affiliates with us in most of our meetings. We hold about ten meetings a year, and when any one of these seven members is missing we know that he is on an urgent call or there is some reason for it or he would be there. A spirit of goodfellowship prevails among the physicians and they are very cooperative.

I might add that we voted unanimously to cooperate with the Red Cross in putting over this diphtheria project, free of charge on our part, I suppose. That is the spirit I voted in, at any rate, and we are ready to cooperate with the State Board at any time in anything it wants done.

SECRETARY MCCORMACK: Doctor, I would like to ask a question. As a matter of fact, isn't your society in continuous session? I never went through there I didn't find them all together unless somebody had a call.

WOODFORD COUNTY

GEORGE GREGORY, Versailles: Mr. Chairman, we are the last and perhaps the least.

SECRETARY MCCORMACK: I really believe we ought to rise and stand while he starts his report, because it is the first time we have had a delegate from Woodford County for a good long time.

DR. GREGORY: We are also the thorn in Dr. Vance's flesh. We have ten men in active practice in Woodford County. Six of

them are paid-up members. We haven't met for quite some time. However, in the past year six of those men have attended twenty-six medical meetings of one kind or another.

PRESIDENT HOWARD: Is there any other delegate from any county here who has not been called upon?

If not, we will next have the report of the Medico-Legal Committee, Dr. Lukins, Co-Chairman with Dr. Owen.

J. B. LUKINS, Louisville: My secretary made this report and mailed it to Dr. Barnett Owen and I supposed he would make it to you, but he is not present.

The business of the Medico-Legal Committee for the past year has been about as usual, although at one time, in February, it looked like we were going to be overwhelmed with claims. There were four malpractice suits filed and four threatened in one week.

Our results in the way of prevention this year have been more satisfactory than in any year previous. By calling upon the doctor who had been a consultant in the case for his opinion, or by referring the controversy to the doctor of the plaintiff's choice, we have been able to prevent the filing of many suits that sounded very troublesome. In fact, more cases have been stopped before they were ever filed than are actually on record at the present time.

I think anybody will admit that is the cheapest way to dispose of a malpractice suit. Many times I have gone in person and talked to people in Louisville or Jefferson County and have talked to the lawyer who was about to bring the suit and have kept this suit from being filed. That saves a lot of embarrassment and trouble and expense.

There have been filed since October 1, eighteen cases. There have been six cases dismissed by the court without getting to the jury. Every case that has gone to the jury and been tried out has been won with one exception. The exception is a case of a pulmonary abscess following tonsillectomy. The lower court held against the doctor, and the case is now in the Court of Appeals.

There has been one case compromised for $200. This was a small case, in a way, but it would have sounded very ugly for the doctor if allowed to go before a jury. We therefore deemed compromise the best way out.

Two of the most difficult cases that have ever come under our notice, namely the blindness resulting from dropping silver nitrate in a baby's eye, and a permanent deformity following x-ray burn, have both been won with complete vindication for the attendant physician.

I feel if we can win those two cases we can win any case that comes before us.

There are now two cases in the Court of Appeals. There are all together sixteen cases pending. We can almost say that no case is ever lost where there is complete cooperation of all the doctors in the given community.

I don't think it is out of place for me to mention right here that we have had the third case in which a barbital preparation of some kind has been given previous to a tonsillectomy. In all three of these cases the child has died suddenly from twelve to eighteen hours following the tonsillectomy. The doctor reported in every one of these cases that the cause of death was unknown; it did not have a hemorrhage. Personally, while I don't propose to suggest to the throat men what to give as a drug previous to tonsillectomy, I feel the barbital preparations with a young child four, five or six years of age are dangerous procedure, because in all these cases I feel that has been responsible for the child's death, and they are very, very difficult cases to fight.

As far as we are able to determine, we have limited the employment of attorneys to only the better class. In this way we get better results and are able to hold the cost of the Medico-Legal Department to a minimum.

This year it was only ten dollars higher than last year, and last year I think it was the lowest in our history.

We wish to again express our appreciation to our attorney, Mr. Roy L. Curtis, for his courtesy, painstaking care, and hard work in every case that comes to his attention.

The profession as a whole has learned how to better defend a suit, and through this cooperation we continue to see a gradual improvement in the results yearly.

I think my secretary had in mind in writing that last paragraph that we have seen, when a malpractice suit is filed, fear and excitement give way to deliberation and good judgment. We don't need a half dozen lawyers. One good lawyer is sufficient, and if we will keep our heads and not gossip and not get excited and if the doctors will stand together, we can win all of these cases.

PRESIDENT HOWARD: The Doctor said

there have been a great many threatened suits that perhaps he didn't know about, but I believe the doctors are learning better how to handle them. I also think the legal profession are learning more to respect the doctor. I believe we should all remember that any time we are summoned to court, if we can get along with the court it is a great thing for us and a great thing for the profession. I have driven over adjoining counties for nothing just to get along with the court and the lawyers. I am determined we will get along with the legal profession if we can.

The following report was received from the Goiter Committee, Dr. R. R. Elmore, Chairman.

For some years your Committee on Prevention of Goiter has consistently advised that adolescent children, particularly girls, be given small doses of iodine, suggesting small weekly doses, such as a dose every Sunday morning. We have also suggested that pregnant women be given small doses of iodine.

A questionnaire has not been sent to the larger clinics through the country, but observation and conversation indicate a marked diminution of goiter patients in the last decade.

Several explanations have been suggested for the decrease in operative goiter, such as decrease in number of patients, this decrease being attributed to a lower incidence of goiter from the use of iodine salt and iodine prophylactics in water or tablet form. Others contend that economic conditions have prevented these patients from applying for treatment, as those who do come in for treatment are far more toxic than formerly.

Your committee continues the previous recommendations for iodine administration.

PRESIDENT HOWARD: It is 5:15. Let's meet here at 7:00 tonight.

. . . The meeting recessed at 5:15, to reconvene at 7:00 p.m. . . .

MONDAY EVENING SESSION
SEPTEMBER 30, 1934

The second session of the House of Delegates convened at 7:10 p.m., President Howard presiding.

PRESIDENT HOWARD: We will have the roll call.

. . . Roll Call by the Secretary. . . .

PRESIDENT HOWARD: Report of the Delegates to A. M. A.

VIRGIL SIMPSON, Louisville: Mr. President and Gentlemen of the House of Delegates: The House of Delegates of the American Medical Association elects by ballot all officers of the Association except the Treasurer, who is recommended for election by the Board of Trustees.

Many physicians express surprise at the selections of the House of Delegates, especially the President. It is often charged that there is much medical politics in these elections. I am persuaded that the suspicion is well founded. I have always entertained the feeling that the presidency of the A. M. A. should be a recognition of professional distinction rather than a reward for organization service. But it must be recognized that there is a larger horizon for leadership of organized medicine than obtains in medical societies existing for scientific purposes only. The constituencies to be represented, the pressing problems of the hour as well as a capacity for leadership become, at times, more controlling in selections of A. M. A. leaders than scholastic attainments. In its selection of President-Elect it chose a rather young, virile, capable surgeon from the State of Washington. He has served as a member of the House of Delegates, secretary and chairman of the Section on Surgery, and is a graduate of the Medical Department, University of Virginia, in which state he was born.

Officers elected:

President-Elect: James Tate Mason, Washington.

Vice-President: Kenneth A. Lynch, South Carolina.

Secretary: Olin West, Illinois.

Treasurer: Herman L. Kretschmer, Illinois.

Board of Trustees: James R. Bloss, West Virginia; Ralph A. Fenton, Oregon.

Speaker of the House of Delegates: Nathan B. Van Etten, New York.

Vice-Speaker: H. H. Shoulders, Tennessee.

Meeting Place: Kansas City, Missouri.

Membership. The Secretary reported 61,406 Fellows, a gain of 692 over 1934; 1130 were lost by non-payment of dues, and 1123 resigned. There were 99,536 members. (Every member who is a member of the state and county society in which he lives is a member of the A. M. A., but unless he subscribes to the Journal is recognized only as a member and not as a Fellow.) This figure represents the membership of the forty-eight state associations and of Alaska, Hawaii, Canal Zone, Philippine Islands, and Puerto Rico.

The figures for Kentucky are: Members,

1710; Fellows, 703; total physicians in state, 2808, and 115 county societies. Comment was made last year on the low standing of our state in the number of Fellows:

	per cent
Kentucky	41
Delaware	58
Pennsylvania	65
California	66
Ohio	67

I believe that the JOURNAL could be used to advantage in an effort to increase our Fellowship.

The same unenviable proportion obtains in Kentucky with reference to the number of physicians in the state who receive the JOURNAL of the A. M. A. In New Jersey 67 per cent receive the JOURNAL; in Connecticut, 62; Wisconsin, 60; in Kentucky, only 34.

Registration. The Atlantic City Session saw the largest registration of the A. M. A. 8,469 members attended. This was a remarkable attendance when the economic situation is considered. The section having the largest number was Medicine, with 2,592, and Pharmacology and Therapeutics the smallest, with 50.

Kentucky was represented by 57, while Pennsylvania sent 2,069. Canada sent 303 to its annual meeting, which was held jointly with the A. M. A.

Financial status, 1934:

Total Assets	$3,686,443.72
Total Liabilities	248,131.31
Gross Income, Journal	1,439,751.07
Gross Income, Rents, Journals, Investments	741,910.46
Pay Roll	399,598.04
Total Invested and Uninvested Reserve	2,288,051.04

As you perhaps know, a part of that is set aside as a building fund. It is invested and is increasing the income of the Association, but it represents an enormous sum.

Medical Education and Hospitals. Through its Council on Medical Education, a comprehensive survey of the medical schools of this country was begun in September, 1934. This work is being done in cooperation with the Association of American Medical Colleges and the Federation of State Boards. About fifty have been examined to date. One school has been denied approval, the University of West Virginia. That was a two-year school which did not conduct courses in third and fourth year work.

A revision of standards and some change in methods of education are expected to result.

Seven thousand, seven hundred and thirty physicians were licensed in the various states; this represents 5,435 actual new doctors for 1934, the difference being, of course, the tendency to wanderlust that so many physicians manifest. At this rate the ratio of physicians increase to the increase of population is increasing. The Council has advised that fewer students be admitted to medical schools annually.

I feel that if that advice is heeded for the next five years, it will have a far more salutary influence in causing legislators, both state and national, to harken to some of the importunings of the medical profession than anything else, because when you make doctors less easily obtained you make them more respected.

Some 600 hospitals have been visited and inspected. Some such work is needed to determine institutions worthwhile for internships, etc. Many hospitals are now offering internships which do not offer adequate facilities to make a year spent in them worthwhile.

Some other inspection of hospitals is advisable in addition to that done by the American College of Surgeons. The standards of the latter are of no value to medicine.

Radio Activities. The A. M. A. carried on a rather extensive radio program during 1934. Both national broadcasting systems are now used. The facilities of these systems have been availed of without cost to the A. M. A. This work has been done by the Bureau of Health and Public Instruction.

The broadcasting of private concerns of misrepresentative statements for medicines, foods and cosmetics was made the subject of study by the House of Delegates through its Committee on Hygiene and Public Health, with the adoption of the principles of expression of disapproval of programs which might be detrimental to the health of the public, and that the Federal Communications Commission's attention be called to questionable programs and that the proper official heads be contacted.

Scientific Research. Through its Committee on Scientific Research the A. M. A. spent $13,128.05 for studies in the various fields in medicine.

The results of such studies are published. The final findings of most of the grants prior to 1934 have been published, and

about 30 per cent for 1934 is in course of preparation.

Occupational Therapy. The Council on Medical Education and Hospitals reported its recommendations as "essentials for an acceptable School of Occupational Therapy." These covered the plant, faculty, curriculum and admission requirements in detail. It recommended that the suggested requirements go in effect by January 1939. The House of Delegates unanimously approved these essentials. You can find the verbatim report in detail in the American Medical Association JOURNAL.

Medical Economics. Medical Economics has bulked larger in the A. M. A. activities during the past three years than any other problem.

The House of Delegates in 1933 unanimously endorsed the Minority Report of the Committee on the Costs of Medical Care. At the Annual Session of 1934 it adopted what has come to be called "Ten Cardinal Principles for the Medical Profession." In February, 1935, the House of Delegates met in extraordinary session at Chicago for the sole purpose of considering a proposed federal Economic Security Act which at least contemplated the inclusion of a compulsory sickness insurance plan. The House unanimously adopted the report presented by its Reference Committee, which put the Association on record as opposing "regimentation of the profession."

That put the House of Delegates on record as opposed to the entrance of any governmental agency into the practice of medicine, whether it be federal or state.

At its session in June, 1935, the House of Delegates took the position that the A. M. A. should not sponsor any specific plan for medical service organization including the care of the indigent sick. By that action it recognized that no one plan could be made applicable to all communities even though backed by federal funds and authority.

The future of the proposal that the government actively regulate much of medicine is problematic as to extent, but rather definite as to direction. All references to illness was eliminated and the proposed "Social Insurance Board" of the Wagner-Doughton-Lewis Bill was omitted from the final draft of the bill. Thus no obligation is placed on the Social Security Board which it did set up to study and make recommendations with respect to sickness insurance, but the bill, as passed, does provide federal subsidies with state cooperation to promote maternal and child welfare, care of crippled or dependent children, and for a development of state and local health work.

The provisions relating to the care of crippled children puts the government into the practice of medicine at once. The provision for expansion of public health work will eventually have the same effect. I think it can be confidently predicted that compulsory sickness insurance will become a problem for the next Congress, and the chances are in favor of its passing. Such an act will complete the wrecking of the private practice of medicine.

The profession has had access to abundant information to warn it to arm itself against such an eventuality. One of the most active agencies of the A. M. A. has been the bureau of Medical Economics. Its studies have been printed as pamphlets and reprints and have been available to subsidiary societies and to members for the asking.

A resolution was introduced from the Pennsylvania State Medical Association, referred to the Reference Committee on Medical Education, recommended by it for adoption, and unanimously adopted by the House of Delegates, which urged the Council on Medical Education and Hospitals to continue its efforts to have a course in Medical Economics taught in every medical college in the United States.

It will be recalled that at the 1934 session a similar resolution was adopted regarding medical ethics. The House of Delegates of the Kentucky State Medical Association adopted a similar resolution applicable to the Medical School, U. of L. You are advised that the resolution has not been acted on by the University. It is recommended that this House approve the action of the House of Delegates of the A. M. A. and request that a course on Medical Economics be made a part of the curriculum.

PRESIDENT HOWARD: This report will go to the Committee on Resolutions. That is a very fine report, Doctor.

Report of the Auditing Committee, Dr. Hall.

D. P. HALL, Louisville: We the members of the Auditing Committee of your Association desire to report the auditing and examination of the records of the Secretary and Treasurer, finding the same posted in neat and orderly manner to be correct and in comparison with the audit-

ing of your certified public accountant. We wish to commend the efficient office management for recording its accounts in an intelligent and readable form. Respectfully submitted.

PRESIDENT HOWARD: May we have a motion to adopt this report?

V. A. STILLEY, Benton: I move we adopt it.

The motion was seconded and carried.

PRESIDENT HOWARD: Next is the report of the Committee on Public Relations, Dr. Abell, Chairman.

IRVIN ABELL, Louisville: Mr. President and Members of the House of Delegates: Since our meeting last year much has transpired that is of interest in the relation of the profession to the public. The threat of the socialization of medicine elicited an enunciation of principles by the American Medical Association through its House of Delegates in a special session held in Chicago in February of this year. This declaration of principles constitutes the basis upon which the distribution of medical service to the public is to be equally made in fairness to the public and to the profession, and is the answer of the profession to those who would socialize its activities under the Social Security Act.

Under the Social Security Act, along with other vast programs that attempt to ameliorate the conditions of those elements in our population that have been rather cast out of the productive stream by the progress of our industrial civilization, there are two sections that are of special interest to the profession. These are the ones referring to maternal and child health and crippled children and to the public health program. Both of them are based, for all practical purposes, on exactly the plans and procedures that have been found successful by the profession and people of Kentucky in the year this Association was founded, 1851. Through its influence the first Vital Statistics laws were passed. It would have been effective had we had any real organized government in the state. It was almost an exact copy of the statute in Massachusetts, which then had been in effect some fifty years and which was effective there because they were well organized as a government. Through the influence of the Association, the State Board of Health was created in 1878, and it was organized as the State Board of Medical Registration in 1893, after having tried several other plans that were not found workable. In 1907, the first full-time county health department was created in Jefferson County. Following this, seventy-four other full-time county health departments have been created in the state. All of these are under the supervision of full-time medical health officers who are specialists in public health just as the other specialties are practiced. In 1920, the Bureau of Maternal and Child Health was organized, and under Dr. Veech's very able direction it has rapidly received the commendation of the Association. The whole public health procedure of the state has been under the control of the medical profession. Here, as elsewhere in the United States, the first public health departments were started as a direct result of the activities of organized medicine. Today in almost every state and important city plans are being worked out by the medical societies through which the preventive health work which can best be performed as a part of private practice shall remain within that field. Both law and custom hold the medical profession responsible for the character of medical service. Every session of the General Assembly has recognized the responsibility of the profession, and the profession has repeatedly accepted this responsibility. Under the Social Security Act these activities are to be developed nationally. While they will not be exactly the same in any two states, in general they will be developed along the line of more effective state health departments and particularly more effectively developed full-time county and municipal health departments. A session of the General Assembly is approaching and the profession should reiterate its stand that public health is not a matter of partisan political activity and that it should continue to be under the control of the medical profession.

It is important that our people should be educated to the public responsibility for the care of the sick. In the larger cities where there are medical schools, plans can and have been developed that will provide fairly adequately for medical care for the poor in public hospitals where scientific staff service can be rendered by the faculty of the institution and where the students may have the opportunity of observing the practice of clinical medicine. In rural sections a plan must be worked out jointly by the profession and the public that will help to relieve the overwhelming burden that is on the shoulders of the medical practitioner.

Organized medicine is now trying to solve the problem of adjusting the economic relations of medical care to a rapidly changing general economic and social environment. No matter how great such economic changes may be, the basis of medical care cannot be greatly altered without destroying its essential character. Sick human beings and skilled human doctors remain fundamentally the same, even though some forms of sickness grow less dangerous owing to the increased skill and improved facilities of the physician. Economic relations differ widely in the United States. Many have overlooked this fact and have asked for a national plan that will solve all local problems simultaneously. The Bureau of Medical Economics of the American Medical Association in a special report to the House of Delegates in June, 1935, presented a study of the steps taken by county medical societies to organize a more equitable distribution of medical service. While numerous proposals have been elaborated by theorists for new schemes, the only significant results in securing more and better medical care for all sections of the population have had their origin in the medical profession. Nearly 200 different experiments are being conducted or considered by county medical societies for such organization of medical service. The medical profession is interested and active in providing medical care for all the people. Medical societies are not only discussing these problems, but are striving earnestly to improve conditions. The medical profession has recognized its responsibility and has accepted its position of leadership in providing medical care.

Your reference committee heartily approves the partial payment plan inaugurated in Jefferson County as a result of the survey made by the Committee on Medical Economics of the Jefferson County Medical Society, and expresses the hope that it can be made thoroughly practical by the unanimous support of all of the practitioners of medicine in this country. Your reference committee also endorses the plan of group hospitalization proposed by the Committee on Medical Economics of the Jefferson County Medical Society under which all of the private hospitals of Louisville would be included, all would offer the same facilities, the prospective patient would have a free choice of hospitals, and no part of the fee would be diverted to promoters.

The U. S. Public Health Service announced in July a forthcoming survey of health conditions throughout the states with special reference to chronic diseases and physical impairments. The survey will be conducted by 6,000 white collar workers selected from relief rolls. The funds, $3,450,000, are to come from federal employment allotments. It is admitted that information thus obtained in widely separated cities will exceed in scope anything heretofore attemped, and if conducted by trained personnel adequately supervised by medical men might yield information from which certain conclusions may be drawn.

The A. M. A. Committee on Legislative Activities has not been informed as to whether the U. S. Public Health Service will have sufficient personnel to adequately supervise this work or if it will ask the cooperation of local medical societies in directing the study. If given over to lay groups without medical direction, the influence of possible personal bias and the use of investigators whose principal qualification may be that of being unemployed would materially color the data. Lack of medical experience and the acceptance of statements from individuals interviewed, without an opportunity to check their validity from other sources, would make the results of little value. Instead of helpful information, the profession may again be forced to combat a fog of misinformation and harmful propaganda arising therefrom.

A United Press dispatch from Washington, D. C., under date of August 29, states, "A broad program of health insurance to round out the Administration's sweeping social security system is being studied with a view to congressional action next spring." While no real significance may attach to this news item, your reference committee would urge upon all members of organized medicine the desirability of familiarizing themselves with the failures and evils of health insurance. Although need of adequate health service to prevent illness was advanced as a basis upon which sickness insurance was established in European countries, morbidity and mortality statistics and incidence of preventable disease do not reflect any superior state of public health as compared to America. A group purchasing an undetermined amount of medical service upon a pre-paid fixed premium basis offered to all who apply, sooner or later will include a large

percentage of individuals who can and have previously supported medical practice upon normal private basis. Experience has shown that prepayment medical service has not been salable on the basis of adequate fees for the physician, as evidenced in experience here and abroad.

Some of the effects of such plans are as follows: (1) A large amount of medical work will be done on a financial basis which is inadequate to provide for maintenance of proper standards. (2) Those not included in the plan will be educated to demand medical service at correspondingly low fees. (3) The operation of such plans over a period of average conditions will not add to the sum total of fees derived from the income group insured, and aside from possible temporary changes in distribution will simply reduce more professional services to an inadequate financial basis. (4) The establishment of such plans will create a pattern which, although undesirable, it may be impossible to change or discard, and may therefore lead to still broader adoption of objectionable practices. (5) There is reason to believe that some local plans, even though now apparently satisfactory, inherently possess the same weakness and destructive tendencies as have been evident in similar patterns of operation in foreign countries. (6) The questions of contract practice, legal responsibilities, and state insurance regulations encountered, as well as the drift to solicitation of patients and violation of medical ethics are well known. (7) Extensive systems of voluntary sickness insurance invite competitive offerings by irresponsible people, and in Europe have created conditions so chaotic as to advance the establishment of compulsory insurance by legislative act.

The profession of Kentucky may well be proud of its background of brilliant achievement in activities concerning the health of the people of this commonwealth. It is determined that its high standards shall be preserved. It is confident that our people will be loyal to it and that we, its members, are not going to be carried into any movement where the profession will be dominated by social workers or other lay welfare outfits that would socialize it.

IRVIN ABELL, Chairman.

Committee:

A. W. DAVIS, Madisonville.
E. M. HOWARD, Harlan.
J. B. LUKINS, Louisville.
A. T. MCCORMACK, Louisville.
IRVIN ABELL, Louisville.

PRESIDENT HOWARD: Do I hear a motion that we adopt that report?

L. S. HAYES, Louisa: I move that the report be adopted.

. . . The motion was seconded and carried, unanimously by a rising vote.

PRESIDENT HOWARD: Report of the Committee on Workmen's Compensation Law, Frank P. Strickler, Chairman.

FRANK P. STRICKLER, Louisville: Mr. President, Members of the House of Delegates: I consider this committee probably one of the most important ones we have, without looking at it from an egotistical standpoint, because it has a direct bearing on the incomes of practically all the doctors in the State of Kentucky. Nearly everyone who has done medicine or surgery is called upon at some time or other to treat compensation cases. The present law in the State of Kentucky (as some of you are aware, and if you are not all aware of it you will be at some time or other when you come in contact with some of these cases) is that you are limited to $100 unless you write in to the Workmen's Compensation Department in Frankfort and get them to increase it to $200. For the average, simple case, of course that is entirely adequate and will take care of it easily, but suppose you have a man with a broken leg or a broken back, a compound fracture that is going to run on for a period of several months; that means that sooner or later that $200 is entirely exhausted and that the doctor and none of the allied professions associated with him in the treatment of that case are paid for their services.

That is not true of all insurance companies. There are some insurance companies that are on the level and really want their men properly taken care of and are willing to pay for it. This present compensation law acts as a screen for those companies that are not on the level to hide behind and prevent payment of just charges.

I have a very short report here that I want to read.

The Committee on Workmen's Compensation reports that to date there have been no changes in the compensation laws pertaining to the fees for doctors, nurses and hospitals. The same fee schedules are in force, the same pernicious practice of proration of doctors, nurses and hospital bills is in force by quite a few insurance companies, thereby causing thousands of dollars loss to the medical and allied professions.

There are only six other states in the Union in which the same deplorable condition exists. This present law is unfair to workmen, doctors, nurses and hospitals, for no serious injury can be hospitalized and treated for $200. It simply means that the workman receives poor treatment and that no one connected with the case receives a fair compensation for their work.

This law can only be changed by the concerted action of the various workmen's unions, the Kentucky Hospital Association, The Kentucky State Medical Association, and the Kentucky State Nurses' Association.

In the very near future there will be an election in Kentucky. Now would be an opportune time for action that will lead to the change of a compensation law which is unfair to everyone except the insurance company.

I therefore urge that the President of the Kentucky State Medical Society, and the House of Delegates, give the subject their immediate consideration.

PRESIDENT HOWARD: I think this report should be adopted.

SECRETARY MCCORMACK: I move this report be adopted and that the Committee on Public Relations be instructed to bring it to the attention of candidates for state offices and take such part in organizing a cooperative campaign as to make it effective.

. . .The motion was seconded by S. C. Smith, Ashland, and carried . . .

PRESIDENT HOWARD: Report of the Delegate to the Convention for the Revision of the U. S. Pharmacopoeia, Virgil Simpson.

VIRGIL SIMPSON, Louisville: Mr. President and Members of the House of Delegates: As your representative to the Convention for the Revision of the U. S. P. XI, held in Washington, D. C., May, 1930, and later as a member of the Revision Committee, I beg the privilege of submitting for your information a statement of the progress of revision to date.

The actual work of revision has been completed. The page proof-reading is now in progress and the book will be in the hands of the publishers within the month. It will be ready for distribution by the end of the current year.

It has been a task of no mean proportion gauged both by the amount of subject matter considered and the importance of its pronouncements. In the statement that the time devoted to the revision work has been a voluntary contribution it is not intended to convey the impression that it has not been a willing contribution. No one serving as a member of the Revision Committee is paid except the General Chairman, who devotes all of his time to the work of coordinating the activities of the various subcommittees doing the actual revision work.

The pharmacists are interested in the appearance of the new revision, since they use the book daily, almost constantly, in their technical work. The physician group will have a small per cent represented as owners of the book, but it will witness a complete revision of all the texts on pharmacology since they derive their official text direct from the Pharmacopoeia. Likewise the medical literature will reflect the influence of the official text.

The federal and state governments are vitally interested in the forthcoming book since it has been pronounced by statutory law the authority for determining standards of purity and strength under national and state pure food acts.

It has been manifestly impossible to include in the text all of every physician's pet drugs; some of his favorites are trade-named or patented products, and these have no proper place in the book. The Pharmacopoeia must control the standards of the agents admitted. The maker of a proprietary product controls the strength and purity of his product and may change them at will.

The Revision Committee has, it believes, selected and admitted a sufficiently broad array of agents to enable the physician of any specialty to find infrequent reason for seeking remedies outside the official text.

A booth was maintained as a part of the scientific exhibit at your meeting in 1934 at Harlan and another exhibit is being shown at this meeting. You are urged to spend some of your time in our booth.

In addition to these scientific exhibits at your annual meetings, we had one at the annual meeting of the State Pharmaceutical Association at Crab Orchard this year. And yet further, a number of meetings of physicians and druggists jointly have been arranged and the gospel of official drugs proclaimed. In this propaganda your representative has had the able, enthusiastic and intelligent cooperation of the State Pharmaceutical Association, the Louisville Retail Druggists, and the Inspector from the State Board of Health. We have traveled thousands of miles and paid our own expenses. Invitations have come to present this work in other states and I have

been able to accept several of these.

The insidious influence of the proprietary medicine group has, however, been most difficult to overcome. They find able lieutenants in our medical colleges; teachers in the specialties particularly give them aid and comfort. The student, therefore, starts out with a faulty training and many never recover.

The work of your representative is not finished with the issuance of the revised text. Arrangements have been made for revision work to continue through the ten-year period and as new, worthwhile agents are discovered they will be admitted ad interim and become official. This will keep the Pharmacopoeia up to date, thus enhancing its influence.

SECRETARY MCCORMACK: I move the adoption of that report by Dr. Simpson.

The motion was seconded and carried.

PRESIDENT HOWARD: Next is the report of the Committee on Resolutions, Dr. Minish, Chairman.

L. T. MINISH, Frankfort: The Committee on Resolutions has not originated any resolutions, and until the report of the Delegate to the A. M. A. no resolutions have been referred to it.

PRESIDENT HOWARD: Report of the Committee on Woman's Auxiliary, Mrs. J. I. Greenwell, Chairman.

MRS. J. I. GREENWELL, New Haven: Mr. President and Members of the House of Delegates, Ladies and Gentlemen: As the retiring President of the Woman's Auxiliary to the Kentucky State Medical Association I deem it a pleasure to submit a report of our progress, for whatever degree of success has been attained was made possible through the sympathetic cooperation of officers and members alike and the desire of all to share in the responsibility of the year's work in making it one of progress. We sincerely appreciate the trust that you have placed in our organization and hope that we shall really merit our position as a connecting link between the medical profession and the laity.

Our program of work, as outlined in the Code of 1933-34, was continued, following the advice of our Advisory Council.

Reports from the county auxiliaries show a variety of activities during the year. Our new project was the collection of furnishings for The Doctor's Shop in Pioneer Memorial State Park at Harrodsburg. The Woman's Auxiliary to the Kentucky State Medical Association has been requested to collect the furnishings for this building. The chief aim and impetus for organizing a medical euxiliary in Mercer County was the care of this Shop so that its members may act as hostesses. A state chairman was appointed, whose list of contributions to this Pioneer Physicians' Shop follows:

I blood letting knife with pearl handle.

1 trephining set of five instruments.

1 pocket case containing eleven instruments.

1 leather case containing eighteen various small instruments and a collection of 23 other antique instruments more than 100 years old.

1 surgical ecraseur or snare, imported from Paris about the year 1847.

12 old style bottles for medicine and ointments.

A few old books.

Third Edition of Morbid Anatomy, with wooden covers papered, printed in 1808.

1 Pharmacopoeia of the United States by the authority of the National Medical Convention held at Washington, 1830, printed in 1831.

Twelfth Edition of the Dispensatory of the United States of America (Revised) Printed 1867.

1 prescription book indexed.

Specific Diagnosis. Printed 1774.

Specific Medication. Printed 1874.

1 large silhouette, framed, of Dr. Thomas Walker, presented by Dr. A. T. McCormack, descendant, May 30, 1935.

2 old chairs have been recently donated by a member of Mercer County Auxiliary.

In response to an appeal from Mrs. Mary Breckinridge, Director, Frontier Nursing Service, Inc., in an address made by her at our last meeting in Harlan, several of the county auxiliaries sent boxes of toys and other gifts to the mountains at Christmas. Clothing of all kinds for adults, as well as for children, were sent. Several sewing units have been organized to make hospital supplies and layettes, for this much needed service. The Perry County Auxiliary, in cooperation with the Hazard Committee of the Frontier Nursing Service, sponsored a motion picture program and the tidy sum of $125 was realized for the service. A silver tea given by this same auxiliary netted about $30 for the same purpose.

This year has brought considerable accomplishment to the Jane Todd Crawford Memorial project, most of which belongs to the Kentucky State Medical Association and to the Jane Todd Crawford Trail Association, not to the Auxiliary. Under the splendid leadership of Dr. C. C. How-

ard, Glasgow, President of the Kentucky State Medical Association, a fund voluntarily contributed by the members of the Association was started at the last annual meeting held in Harlan. With this fund a beautiful granite monument, a monolith of excellent design, was purchased through Mr. Robert F. Moore, Memorial Artist at Peter and Burghard Stone Co., erected, and with appropriate ceremony unveiled at McDowell Park, Danville, May 30, 1935. A full account of this memorial occasion is preserved for us in the Supplement to the Kentucky Medical JOURNAL for September.

One hundred and twenty-five years ago last Christmas (1934), Jane Todd Crawford submitted to the sacrificial experiment known as the first ovariotomy. Fifty years ago last May (1934) earlier members of the Kentucky State Medical Association erected a monument to Dr. Ephraim McDowell. A long, long wait it seems in both instances for well earned and fully deserved recognition, yet Kentucky Auxiliary members may take pride in the fact that Kentucky physicians actually set a precedent in each instance. Never before had an organized body of physicians so honored a physician. Never before, so far as we can learn, had a patient been so honored by an organized medical group. Each and every member of the Auxiliary voices the sentiments of our Chairman when she says, with deep sincerity: Gentlemen, we thank you for this recognition of the vital part played by a patient, a woman patient, in the development of curative surgery.

Another accomplishment toward the completion of the Jane Todd Crawford Project is the fine work done under the leadership of Mrs. R. L. Durham, Greenburg, President of the Jane Todd Crawford Trail Association. From the Adair County line, nine miles south of the Old Crawford Homestead, to the Homestead, and following the Jane Todd Crawford Trail northeast to the Taylor County line, the roadside has been planted on both sides with native trees. Eventually we hope that the other three counties, (Taylor, Marion and Perry) through which the trail passes, will make that memorable sixty miles one of the most beautiful and desirable highways in the state. The Jane Todd Crawford Library in Greensburg, continues to serve the people of Green County, their first and only library.

Within the Auxiliary our efforts have been continued in: search for additional bits of the story; promotion of essay contests in the schools and addresses before clubs and other organizations. We also assisted with some of the detail in the development of the medical association's memorial, including an early newspaper release. Two new stories connected with the great experiment have been unearthed. One concerns the identification of the good neighbor woman who nursed Mrs. Crawford while she was a patient at Dr. McDowell's home; the other, confirmation of the story itself by Mrs. Crawford, speaking directly to a skeptical young medical student just through college. Both are contained in the July 1935 issue of our Quarterly. Supplement to the Kentucky Medical JOURNAL.

Essay contests in the schools on the subject of the Jane Todd Crawford Trail have been promoted in thirteen counties by two auxiliaries, Nelson County and the Samson Community Auxiliaries. Both awarded prizes for the best essays. Addresses on the subject of Jane Todd Crawford, Pioneer Heroine of Surgery, were delivered before the B'rith Shiloam Sisterhood and the Woman's City Club, Louisville, by our Chairman, Mrs. A. T. McCormack.

The work of our Archives Chairman speaks for itself. Valuable material has been procured which will, we hope, enrich our Archives.

Promotion of child health and welfare is one of our objectives. This committee sponsors a page in our Quarterly Supplement and urges the cooperation of county members in sending in material for same. We want a better understanding of the child and his needs, and stress good habits and prevention of contagious diseases as the first goals to be striven for in this objective. The members of Nelson County Auxiliary contributed to the Crippled Children's Fund by taking an associate membership during the seal sale at Easter.

Once more we enjoy the thrill of turning over to the Kentucky State Medical Association the much desired information of the lives, the heroic deeds and accomplishments of those who pioneered in medicine in our state. Of the thirty-two biographies sent this year, one is of Dr. Matthews of Mayfield, who on April 29, 1896, delivered the Lyons quintuplets. These infants, all boys, died while very young, due, the mother declares, to "too much company." Their names were Matthew, Mark, Luke, John, and Paul.

As to finance, we have operated within the budget as planned for the year.

The new envelopes on "Milk" and "The Prevention of Blindness" sent to us by the American Medical Auxiliary, were distributed to all local groups for study on their programs.

No report comes from the Committee on Legislation, as the work of this committee is based entirely on instructions received from the Advisory Council, and nothing has been brought to their attention. This committee stands in readiness to assist, when called upon by the advisors.

The educational side of our work and the public relations resulting from associating with other groups has found a wide opening this year for valuable work under the inspiration of the Public Relations Committee. In some of the auxiliaries members serve on state boards of lay organizations.

Three outstanding features in the past year's work should be entered on our records concerning tuberculosis: The support given in the sale of Christmas seals in December, and the early diagnosis campaign in the spring, which was made more interesting and worthwhile by our good women throughout the state. Through them more than five hundred pieces of especially prepared literature were placed in the hands of physicians, also educational and community leaders. The call for help at Hazlewood Sanitorium was relayed to each local group. The splendid group of workers in the Samson Community Hospital District were caring for indigent tubercular children at the time, but extended their services by sending a box of needed articles to the patients.

A trip through a laundry secured sufficient funds for a member of Jefferson County, who is now county president, to finance a birthday party at Waverly Hills for sixteen girls who otherwise would have had no one to befriend them. This same auxiliary also sponsored a bridge party which netted almost $200, the proceeds turned over to the Louisville Tuberculosis Association for a summer session of the Camp Taylor Health School. As a result, 200 children enjoyed the benefit of an eight weeks' summer session.

The Mercer County Auxiliary also responded very generously to this appeal for help. The members of Mercer sponsored a venereal clinic at which assistance was given both financially and personally. Our Chairman on Tuberculosis sponsors an interesting page in each issue of the Quarterly Supplement. The double-barred crosses in red were made possible through the courtesy of the Kentucky Tuberculosis Association and did much to make this page attractive.

Our Auxiliary through the Committee on the Control of Cancer is endeavoring to assist in educating the general public in the latest scientific research work on cancer, and began this cancer education with the first message of Mrs. J. Duffy Hancock in the July, 1934, issue of the Woman's Auxiliary Section. Interesting articles on cancer control appear in each issue of this Quarterly Supplement. The members of Perry County Auxiliary for several months contributed to the support of an old woman with cancer.

The Jefferson County Auxiliary sponsors "Come and See Trips." Eighteen institutions or organizations were included in the program during the year.

The sewing units continue to do excellent work. Mattress covers, baby blankets, layettes, and other useful articles are donated to the maternity wards. A bridge party was sponsored by the Jefferson County sewing unit, at which $56 was realized. This sum used to purchase material which was made into garments and distribued by hospital committees. This auxiliary is credited with the completion of 639 garments during the year.

From many sources come favorable comments and encouraging assurances that much interest continues among readers, in the publication of our Quarterly Supplement to the Kentucky Medical JOURNAL outside the state as well as within its borders. We have been asked by interested club members, as well as by auxiliary members from outside the state, for our plan of procedure and method of financing our publication. Forty-six firms and establishments have given us advertising contracts for this year amounting to $926.58. Five counties have donated a total of $20, and individual donors, twelve from other states, have donated a total of $29 for the support of this publication, making a grand total of $975.58 for our 1935 expenses. We are justly proud of our Editor and her fine Business Manager to whom we have committed the welfare of this Quarterly of ours.

Under organization, excellent work has been done. Our Chairman and her associates have sent out appeals for the organization of new auxiliaries and report two new ones, Pulaski and Hardin. Boyd County is in the process of organization. The medical society has given permission

and has appointed the Advisory Council.

We have thirteen auxiliaries representing nineteen counties.

Members at large, 34.

New members, 62.

Honorary members, 6.

Deceased during the year, 3.

Dues paid on 280.

Grand total, 320.

Only the paid membership is reported as our total. Notwithstanding 62 new members, our membership does not equal that reported last year. This, of course, is due to the great number of delinquents. Yet, the dues are only One Dollar a year. We really feel that every single one of you men who have a wife, or mother or daughter, ought to be willing to pay their dues every year so that they may get the same joy out of the ownership of our Quarterly Supplement that you do out of the Kentucky Medical Journal.

We have tried to lay before you the activities of the Woman's Auxiliary for the past year, and hope you will excuse our shortcomings and mistakes, and know that we stand ready at all times to do all in our power to be of service to the highest of professions. I thank you. (Applause)

IRVIN ABELL, Louisville: In moving the adoption of this report I should like to take advantage of the opportunity to express first wonder for the amount of work which has been accomplished by an auxiliary with a comparatively small group, only 200 active members, and yet when one listens to the report read tonight of their manifold activities and the good work they have done in many, many lines, it must be a source of wonderment and a source of stimulation to each and every one of us. I wish to congratulate them.

V. A. STILLEY, Benton: I want to second Dr. Abell's suggestion of commendation. I think that the amount of work that the Woman's Auxiliary has done is marvelous. Those of us who see the work know it has been a wonderful success. I have been the silent partner of an ex-president of the auxiliary and I know there is a tremendous amount of work to do, but our wives are interested in our work, and I think we ought to lend them a helping hand and do everything we can to make the Woman's Auxiliary this next year better than it ever has been. (Applause)

SECRETARY MCCORMACK: I want to discuss that report just a minute. I want to say, Mr. President, that of course no recommendation is necessary to those of you in the counties where auxiliaries exist. You know their value and you know you are having better meetings and that you are attending them better than you ever did, because when your wife knows about the meeting and knows about the work of the Association she sees that you are there and makes the arrangements so you can be there, and as long as she is your telephone girl generally anyhow—I am talking to those of you who have wives—the arrangement is perfect.

I want to urge the counties that have not yet organized auxiliaries to do so. I don't see how it is possible for you to hear this report and not be jealous of the interest your wife and daughter show in the auxiliary. It is a wonderful work these women are doing; they are doing an enormous amount of it. You have to come in contact with it as I do, or as Dr. Greenwell or Dr. Stilley, practically all the time, to understand it. Dr. Hendon and those of us whose wives are actively engaged in this work are tremendously interested in it, and I want to urge the counties that have not yet formally organized their women into auxiliaries to do so as soon as possible and get the benefit of this great work.

PRESIDENT HOWARD: Let's all vote loud. All in favor of this say "aye." There is no objection.

The next is the report of the Committee on the McDowell Memorial, Dr. Abell.

IRVIN ABELL, Louisville: Mr. President and Members of the House of Delegates: Your Committee on the McDowell Memorial has interviewed Miss Emma Weisiger and Mrs. L. W. Harding, owners of the McDowell home in Danville, and have the following to report.

The property has been in the possession of the Weisiger estate for many years, during which time the owners state they have made certain repairs, with the idea of preserving the property for memorial purposes. Such repairs consisted in replacing the rock foundation, setting same in concrete; in rebuilding the brick portions of the house, using and replacing the original brick, laying them in cement; replacement of windows and boarding up the house to protect it from vandalism. Offers of purchase for the doors and other portions of the house have been received and refused. An offer of purchase for the entire house, to be dismantled and removed to another city, has been made and declined, the owners believing that the house should remain on the site at which it acquired historical significance. The house for some years has produced no income,

its sole occupant being a negro barber, who pays no rent, but whose tenancy is maintained to conform to insurance regulations. The street upon which the property adjoins has been improved at the expense of its owners. The owners feel that they should in whole or in part be reimbursed for the money expended on the property and for the loss of income to the Weisiger estate in maintaining it in its status quo. Miss Weisiger and Mrs. Harding have placed a price of $15,000 upon the house and lot, to the purchase of which they have offered to contribute the sum of $5,000 in memory of their father, who was a physician, and of their brother, in whose custody the property remained for many years. The acceptance of this proposition will leave $10,000 to be raised.

Your committee has also interviewed Mrs. Emma Guy Cromwell, Director of State Parks, and found her most interested and helpful. While no federal funds are available for the purchase of the property, if and when it can be secured and donated in fee simple to the Kentucky State Parks Board, the Board, through its Director, Mrs. Cromwell, can and will secure money from the W. P. A. for the rehabilitation and restoration of the property for the purpose of establishing it as a state museum or park. A survey by Mr. Corly, an architect connected with the W. P. A., shows this to be a readily feasible undertaking. Granted that the project as outlined can be brought to a successful culmination, the State Parks Board will take it over, install a hostess and a janitor and insure its perpetuity. There are many mementoes of Dr. McDowell in existence, the owners of which could probably be induced to donate them to the museum, when assured of its permanency.

An effort was made on May 30 last at the dedication of the Jane Todd Crawford Memorial to launch an Ephraim McDowell Memorial Association under the sponsorship of the Kentucky State Medical Association and the citizens of Danville. President Howard appointed the following to serve as officers until a permanent organization could be effected: Dr. Irvin Abell, Louisville, Chairman; Mr. Jay W. Harlan, Danville, Secretary; Mr. C. J. Turck, Danville; Dr. Louis Frank, Louisville; Dr. C. A. Vance, Lexington, and Dr. Emil Novak, Baltimore, Directors. It is only within the last ten days that your committee has been able to secure the above-mentioned propositions, consequently no further effort has been made to proceed with the permanent organization of the Ephraim McDowell Memorial Association. The only meeting held was the initial one on May 30, at which time its proposed formation was announced. Signed pledges secured at that time (nineteen fifty-dollar pledges) total $950, and are at present in the possession of the Secretary, Mr. Jay Harlan, of Danville.

Respectfully submitted,

IRVIN ABELL, Chairman.

Committee:

DR. LOUIS FRANK, Louisville.

DR. CHARLES VANCE, Lexington.

DR. IRVIN ABELL, Louisville.

HUGH E. PRATHER, Hickman: I move that the report be accepted, the Committee continued with the additions of Drs. McCormack and McDowell, and that this Committee be made permanent.

SECRETARY MCCORMACK: And that they be authorized to receive subscriptions and prosecute the campaign for securing this fund, and to act as Trustees for the Association in the purchase, control, lease, sale, gift or conveyance of the McDowell Home in Danville.

H. E. PRATHER: Yes, sir, I accept the amendment that the committee be made a permanent committee and proceed as they see fit to obtain this old home, and to convey it to the State.

LOUIS FRANK, Louisville: Before that motion is put I would like to discuss not only the report but the motion.

Opportunity does not knock very frequently at the same door. It has knocked once before at the door of this Society as far as the obtaining of the McDowell home as a memorial is concerned. The adoption of this motion as it stands merely delays the matter probably for another year and maybe for a longer period of time.

As a member of this committee and as one who has been vitally interested in this subject for a good many years, having given a great deal of thought to it and also having done some investigating and having made some efforts in connection with other committees to obtain this property, I feel that the time for action has come. I think we cannot afford to defer this matter indefinitely. There are methods of procedure which this House of Delegates might endorse which might go further than the motion which was made, which would put this committee or any committee that you desire to appoint or might appoint in a position to really do something that is worth while, in other words to make some progress toward obtaining this home as a memorial, one of the most worthy objects, I think, that has come be-

fore this Society.

Some years ago, probably twenty or twenty-five, I had something to do with the obtaining of the Lincoln Cabin and the establishment of the Lincoln Farm as a memorial, which memorial was taken over by the national government. Something very similar could be done by this Society, and I believe that the Association could take some steps to establish probably the McDowell Memorial Association and invite certain members of the Filson Club, certain members of the Bradford Society of Lexington, of the Kentucky Historical Association, of the Pioneer Society at Harrodsburg, and other like societies of the state, in addition to a number of prominent citizens, to start it, with this Society always fostering it, and with a number of members from this Society go to work soliciting subscriptions. I feel sure from the correspondence I have had with men in some of the special societies throughout the country that probably within a period of twelve to eighteen months $10,000 or more could be raised to enable us to purchase this home.

This offer probably will not be held indefinitely. It is very unlikely that the individuals who desire to dispose of the property will hold such offer open for an indefinite length of time, and we do not know that in a year from now they will be in a position or that it may be desirable or possible for them to donate $5,000 toward this project.

I think this meeting should go further than has been mentioned in this motion and should take some definite steps. It may require a day or two to formulate a plan, but certainly some definite plan should be presented to this body before it adjourns, so that this committee, if it is continued, may have something to work on and may really go to work in order that its efforts will be not merely empty efforts and in vain, but will really amount to something, and in order that we may be in a position in which we can say something definite. Anything that we may do now or that your committee may do will be purely tentative. We must have something definite and positive to work on; a solid foundation must be laid here at this meeting, it seems to me, if anything is to be done.

I feel there is no doubt whatsoever from my correspondence with men who are vitally interested in this subject all over the country, that it would be possible to bring this to a successful conclusion within the next twelve or eighteen months if we take the proper steps at this meeting.

SECRETARY MCCORMACK: Mr. President, it is exactly with that idea in mind that I made the motion that this committee be authorized to act. If the committee brings in an action at the House of Delegates on Thursday, that will be a recommendation. I was prepared immediately on the adoption of this resolution, and am prepared, to make a motion that an initial appropriation of $1,000 be made by the Kentucky State Medical Association toward this fund. That will raise a tenth immediately, by contribution of every member of the Association in Kentucky. We have the money in our reserve and can do it, and I believe it would be a very wise expenditure, but it seems to me this committee is authorized to act, they are not authorized to temporize, and knowing the surgical temperaments of the three operators and their very distinguished ability in handling emergencies, I would imagine that they would make an opening immediately, I can conceive of them doing nothing else, and with a thousand dollars to inaugurate it I am satisfied that would make it attractive, even to these distinguished surgeons.

C. A. VANCE, Lexington: Mr. Chairman, may I ask what would be the status of the Association with regard to the pledges?

PRESIDENT HOWARD: We would make them hold good. We wouldn't give up any pledges.

SECRETARY MCCORMACK: Has that association been chartered?

PRESIDENT HOWARD: That was started in an organization of the citizens of Danville, and I only acted there in the part of cooperating with them to take an interest in it and use them and use ourselves, too, to promote this cause. Now everything we can do as doctors here we should do. We have the majority on that committee. They gave me the privilege of appointing the committee and I certainly didn't leave the doctor off, and they didn't wish me to. I also put on two of their men who were very public spirited and would help wonderfully. It was their idea about the Mcdowell Memorial Association and they just mailed to me, as you remember, the articles of incorporation and left it to me to appoint the committee, which I did and then met with them. I think that Association should go on. We have no trouble working with it because you men are on it and you represent us. You are also on our committee here. I believe that day we subscribed almost a thousand dollars, did we not?

IRVIN ABELL, Louisville: Nine hundred and fifty.

PRESIDENT HOWARD: That is close to it. I think I could get up the other fifty. I don't know, but I feel it would be a fine thing for this Association to pledge itself for a thousand dollars. That old home should be preserved and it can't be there always, because a fire or something will take it away.

First I would like for you to vote on retaining this committee. Plenty of men in this Association could have acted on the committee, I think any of you could have, just as I think about the presidency—I think any of you could act as President, but I looked over the situation and selected these men because I thought they had a personal interest in it and had studied the thing seriously and could carry it through, and I still think they will carry it through. Now is the time for us to get behind them and help them.

IRVIN ABELL, Louisville: Mr. Chairman, I would like to urge the action at once, which seems to be the general idea. The money, to be secured from the federal government under the W. P. A. had to be applied for by the twelfth of this month—September. That application has been put in provisionally for $20,000 for the rehabilitation of the home, and unless we do have some definite plan upon which to work we will lose that, so we ought to have some definite plan in order to secure that $20,000. That is pledged in that way.

The State Parks Board, through its Director, has agreed to take over the place and maintain it in perpetuity, establishing the place as a museum, a park, caring for it, putting in a hostess and a janitor, so you can be assured that as long as the Kentucky State Park System endures the McDowell Museum or State Park, whatever you want to call it, will be an integral part of that system.

PRESIDENT HOWARD: The maintaining of it is a great thing. That is the thing that has always worried me—this society's having to maintain it. If we get loose from that it can be maintained in the Park System. I believe a motion has been made.

LOUIS FRANK, Louisville: It seems to me that a definite organization should be effected at this time. As a member of the committee I don't like to suggest this, but certainly this committee, unless it is made a permanent committee, couldn't act. If I mistake not, under the articles of incorporation of this group that met in Danville, the President of the State Society has the power to appoint the committee himself. We may have someone next year who may change this entire committee.

PRESIDENT HOWARD: That committee was a permanent committee appointed then; there wasn't anything about appointing another committee. Your committee is permanent.

LOUIS FRANK: Be that as it may, I think it would be a far better procedure (I say as a member of this committee it probably is not becoming of me to suggest it) for this committee, with such other men added to the committee as the President should appoint, to get together and formulate a definite plan of organization to be reported back to this Society at its meeting on Thursday morning for final adoption. Then we have got something we can work on.

IRVIN ABELL, Louisville: The only way in the world you can do that is through the State Parks Board; the committee couldn't do it.

PRESIDENT HOWARD: We have first to obtain the property.

SECRETARY MCCORMACK: If your committee is authorized to act for the State Medical Association, how can we make it any more definite than that? I don't believe you can devise any plan of action that is better than giving power to act generally and take whatever action is found to be best in the matter, including the purchase of the property if it is necessary to do it. I am perfectly willing to include that in the motion, that the committee, if it finds it necessary in order to save the situation, be authorized to go ahead and purchase and convey the property and incur the necessary indebtedness in its purchase. I think this is a matter of such urgency that the profession should be willing to assume whatever indebtedness is necessary and to buy this property if it is necessary to do it in order to get the $20,000 expended for the preservation of this memorial, and do it now. I am perfectly willing to authorize the committee to act, including the purchase and conveyance of the property if they find that necessary.

H. E. PRATHER, Hickman: I accept this amendment.

PRESIDENT HOWARD: Do I hear a second to that motion?

S. C. SMITH, Ashland: I will second the motion in the amendment.

PRESIDENT HOWARD: All in favor of the motion with the amendment say "aye," opposed. It is carried. That gives this committee all the authority.

SECRETARY MCCORMACK: Now I move that $1,000 be appropriated by the Kentucky State Medical Association for the purchase of the McDowell home as a permanent memorial and that that money be available on the written order of this committee.

HUGH E. PRATHER, Hickman: I second the motion.

. . . The motion was seconded and carried unanimously. . .

PRESIDENT HOWARD: I feel this committee is going to obtain the property. Once they obtain the property, the fine thing about it is that the Parks Commission will take it over and we are relieved of maintaining it. That is a great thing. I have always worried over the maintenance. Sometimes a fellow might give you a thing but then keeping it up would ruin you, and if the Parks Commission can maintain it that is the finest thing for the state and for us too. I think you will solve that problem. I want to thank every one on this committee for their work.

Next is the report of the Committee on Medical Education, R. E. Smith, Henderson, Chairman.

R. E. SMITH, Henderson: Mr. President and Members of the House of Delegates: The committee on approaching the subject of medical education is well aware of the various views on this subject, but at the same time we appreciate the marked changes that have occurred in the last ten years and the tremendous increase in knowledge in the various scientific fields that are so intimately connected with the medical profession.

The medical profession is justly proud of the high standard of efficiency that it has maintained. Due to our advance in knowledge it becomes necessary for the profession to demand higher qualifications and better preparation of the students who expect to enter medicine as a profession. No longer can a physician come from high school or even with a degree from college and enter medical schools and intelligently understand many of the subjects that he has to study.

Some have the impression that our premedical courses are for the purpose of producing orators, artists or college professors. There is nothing further removed from these courses than this intention. It is essential that the physician have an accurate knowledge of the English language; that he may be able to use it correctly; that he may have a broad and large vocabulary so that he may express accurately and concisely his thoughts, and that he may do it with ease.

Authors, poets, artists and musicians are born and not made. Some of these individuals may decide to study medicine, and with these gifts they add luster to our profession. But it is not the aim of the training necessary to enter the medical school to develop these characteristics in these gifted individuals. The medical profession has been and must always be one of the learned professions. This being the case, it is necessary that we do all in our power to select the men that are fitted mentally, physically and spiritually to take up and to carry on the teachings of Esculapius.

A scholastic training or so-called premedical course is today outlined for the medical student with certain definite branches of knowledge that he must be acquainted with before he can undertake to study medicine. This, in turn, entails on the medical profession a selection of students who are especially adapted and qualified to practice medicine, and quite a number of the medical schools are only taking students who have passed their aptitude examinations.

We approve of any and every method available by which we can help determine the aptness of a man who wishes to enter medicine as a profession. But here we wish to sound a note of warning: the aptitude tests are not infallible, they are not all inclusive, and they fall short in many instances. We may have an individual who is not qualified because of personality or peculiar personal characteristics or physical defects, for practicing medicine, but on the other hand he may be very highly qualified to enter another branch of medicine, such as pathology or bacteriology, or he may be a splendid research man, or he may be a biochemist with exceptional ability. So we feel that we need a little broader and more comprehensive system of tests. We feel that it is necessary to have a personal contact with the individual; the former professor's opinion of the ability and inclination of the student would be a great aid in these tests. We believe in standardization in certain lines of human endeavor, but without fear of contradiction we deny the possibility of standardizing human nature and all that goes to make up that something that we call personality. Some of our greatest thinkers took twice as long to write down

their thoughts as their fellow students, and their thoughts have remained the heritage of the thinking mind of today and their contemporaries have been lost in oblivion.

The test tube is of great value in the practice of medicine, and other laboratory methods of obtaining scientific information regarding the patient is splendid, but as yet the Almighty has not given us any means by which we can calculate ahead of time the mental capacity and ability of the human mind. These mental characteristics and traits, aspirations and desires, can only be discerned to a certain extent by allowing the individual to express these hidden hopes and wishes, not on paper, but to an understanding instructor who inspires confidence in the student, to allow some of the things that he has carried hidden come to the surface, and in that way aid greatly in helping him make a decision on his life's work. Only this personal contact can bring out to a large extent the stability, determination of an individual; his manner, his tone of voice, his actions, his physical characteristics, these cannot be transmitted on paper, but it is not a bad idea in many instances to have the past history of these individuals and their ancestry to help us come to a decision. We may eliminate a great deal of unnecessary material by our more or less stereotyped aptitude tests; again we may also turn away brilliant minds which would be an asset to the medical profession.

So the committee in bringing this report wishes to be understood that we are in favor of aptitude tests and we think that they are of great value, but we also feel that they are not perfect and we are trying to aid and not destroy or criticize the efforts that are being made in the selection of medical students.

We feel that one of the most necessary aids to the practice of medicine—and we feel so strongly about it that we think it should be classified as part of the training of the medical student—is that the student have at least one year of internship in a hospital that has a hundred or more beds, this hospital coming up to definite requirements so that the student may get practical knowledge of the application of his theoretical training under a well organized staff. This training is invaluable to the student, he will get a great deal from the physicians on the staff that he will never find in books, he will learn a great deal about the practice of medicine that has not been included in his curriculum nor recorded in the written page.

Another phase of our medical training that we would like to mention is medical jurisprudence, which is neglected, to the detriment both of the physician and of the public. Right here I would like to say that I think the most pitiful thing that we see is the physician being pitched around by a lawyer when the physician is testifying. The usual reason this occurs is because he knows nothing about his rights and where he can refuse to answer a question or appeal to the court for a decision. This course should be given in our medical schools by able barristers and qualified physicians on this subject.

Another phase of our medical training which seems to be almost uniformly, if not entirely, overlooked is the acquaintance the medical student has with medical ethics. There should be a series of lectures given on medical ethics and the medical ethics of the American Medical Association form the basis of this course. This would undoubtedly bring about a wholesome understanding of the procedure that should be followed by the members of our profession towards each other and towards the public. The misunderstanding and the hard feelings that so frequently arise without the slightest intention on the part of the members of the profession would to a large extent be eliminated.

We do not approach this subject of premedical education with any dogmas, pet hobbies or set theories, for we know the hue and cry is that every man who practices medicine needs eight years of preparation, and if he takes two years of hospital training he has spent ten years getting ready. No other profession requires any such preparation. Let us remember, a man who sharpens his axe before cutting wood cuts more wood and cuts it better than a man who starts with a dull axe. Do we not feel that the responsibility placed upon the medical profession demands the best preparation of all professions? And we readily admit that the value of human life, when calculated in dollars and cents, is far below many of the commodities that we have in our daily market. Is not human life worth the time that is spent in preparing the men who are to treat the ills of the human body to prevent disease and, by so doing, bring more joy and happiness to the individual during his short span of existence?

A physician lives a life of action; he lives a life of reality. A man that lives in a hypothetical world and who is geared up to day dreaming is not fit for the practice of medicine. This may be very good mental material for novel writers or poets, but it is not for the practice of medicine. In the personality of a physician there must be somewhere a large portion of human kindness, tenderness and gentleness, that human understanding which can be transmitted to those who are suffering or in sorrow and distress by a mere look or shake of the hand, that something that does not need to be spoken but can be felt, and how often haven't we seen a family physician show that tender and sympathetic understanding without saying a word, and hear someone afterwards say, "What a wonderful man." A physician must be a m a n whose incentives and motives in life cannot be calculated or exchanged for dollars and cents. His ideals are not on the stock market. His services cannot be bought. What physician has ever been justly remunerated for the services he renders mankind. and some of the finest service that is rendered by the medical profession never receives as much as "Thank you" from the individual who received the service, but the physician has the satisfaction of knowing that he rendered the service and that he did it beautifully well. This satisfaction is a heritage of every true physician. He may come down unheralded and unsung, but still the consciousness of a high altruistic motive remains the heritage of our profession. Therefore let us be careful that we pick men who can measure up to these standards.

Respectfully submitted,
R. EMERSON SMITH, Chairman.
J. D. FARRIS
H. D. REYNOLDS.

S. C. SMITH, Ashland: I move the report be accepted.

. . . The motion was seconded by L. S. Hayes, Louisa, and carried. . .

PRESIDENT HOWARD: The next report is that of the Heart Committee, Dr. Horine, Chairman.

E. F. HORINE, Louisville: Mr. President, Ladies and Gentlemen: During the past year the Committee on Heart Disease has continued its investigations concerning the etiology and prevalence of cardiac disease in Kentucky. There has been no change in the situation from that previously reported before this Association.

One important phase of heart disease which has not been mentioned here before is the economic situation of the individual patient. Physicians are somewhat prone to advise patients with heart disease to stop working regardless of their financial status. Occupations entailing much physical strain must be given up, but the wise physician under such circumstances will suggest a change of work to a type of which the patient is capable. Thus the cardiac cripple may continue to be economically independent and consequently not experience the worry which enforced dependency brings on.

The committee desires to call attention to the imperative need for a convalescent hospital where cardiac cripples may be rehabilitated. In such an institution ideally managed there would be carefully arranged classes in occupational therapy with especial attention given to vocational guidance. Louisville has long been conscious of the need for such an institution, and it is hoped that steps will soon be taken to provide it.

R. E. SMITH, Henderson
AUSTIN BELL, Hopkinsville
WALTER BYRNE, JR., Russellville
JOHN W. SCOTT, Lexington
E. B. WILLINGHAM, Paducah
W. L. TYLER, Owensboro
EMMET F. HORINE, Louisville, Chairman

PRESIDENT HOWARD: What is your pleasure with this report?

IRVIN ABELL, Louisville: I move the report be accepted.

The motion was seconded and carried.

PRESIDENT HOWARD: Report of the Committee on Physiotherapy, Virgil Simpson, Chairman.

VIRGIL E. SIMPSON, Louisville: The setting up of a Council on Physical Therapy by the A. M. A. offered, for the first time, an opportunity for American physicians to have at hand authentic, dependable information concerning not only electrical apparatus, but other physical measures as well.

There is a definite field of usefulness for this type of therapy, but it is not thought that specialism is wise.

This Council has contacted the Association of American Medical Colleges in an effort to have instruction in physical therapy systematically carried on in the regular course of instruction.

A distinct advance in ultra-violet therapy is recorded during the past five years. Heretofore no adequate dosage meter was

available; two such instruments have been developed and accepted by the Council. The studies of short-wave therapy will soon be available.

There is an exhibit of physical therapy at this meeting, sponsored by a group from Jefferson County Medical society. It was decided to have this booth this year instead of one by your committee, as was done last year at Harlan.

. . . A motion was regularly made, seconded, and carried, that the report be accepted. . .

PRESIDENT HOWARD: Next is the report of the Committee on Military Medicine and Medical Veterans' Affairs, Dr. Smith of Ashland, Chairman.

S. C. SMITH, Ashland: Your committee wishes to report that the more recent regulations governing examinations of veterans have been greatly simplified. Examinations for compensation for partial disability are to cover service-connected disabilities only. A general physical examination is required only when a claim for total and permanent disability is made. In handling more than 4,000,000 men and women, it is natural to expect the records of the Army would fail to show every case where disability was caused by military service. Many of those who have a just claim will never be able to show service connection.

The regulations governing disabled emergency officers are clearly discriminatory and unfair. They are required to show that their disabilities were the result of the performance of military service under the so-called "Causative Factor Clause." No such regulations are required of officers of the regular service, both Army and Navy. It is unfortunate and rather ironical that some members of the so-called Economy League were retired officers of the Army and Navy who are drawing retired pay for rather trivial disabilities. These officers took an active part in an effort to have the Emergency Officers Retirement Act repealed and their efforts were largely responsible for the stringent regulations governing retirement of emergency officers.

Your committee believes that if the principle of retirement is right, emergency officers should be governed by the same regulations that apply to the regular services. Members of the Association are urged to contact members of Congress and urge them to correct this injustice.

Members of this Association have cooperated whole-heartedly in the examination of applicants for C. M. T. C. This was done without remuneration.

Some members of this Association have examined numbers of men for C. C. C. Camps. The fee for these examinations is fixed by the government at one dollar for the first examination and forty cents for each succeeding which is done on the same day. While this sum is ridiculously small, our doctors have responded in order to help this worthy program along.

Your committee and the Kentucky Medical Association are grateful to Congress and the Veterans' Administration for regulations which stopped hospitalization of veterans with non-service connected disibilities regardless of their ability to pay. Your committee feels that the old regulations were a step toward state medicine and were made without any justification. We believe that veterans who are able to pay are no more entitled to free hospitalization than they are to free groceries and house rent.

Your committee urges organized medicine to fight for justice for the veteran, but we also urge you to fight any demand for special and unjust privileges which are made.

Respectfully submitted.

S. C. SMITH, Chairman
E. C. WALTER
H. E. PRATHER.

IRVIN ABELL: I move the acceptance of the report.

. . . The motion was seconded by R. E. Smith, Henderson, and carried. . .

PRESIDENT HOWARD: Dr. McCarty, may we have your report on Publicity?

A. CLAYTON MCCARTY, Louisville: I would like to make three reports in about three minutes.

For the Committee on Publicity, we have tried to get the cooperation of the local papers and the papers through the state, and we have placed the program of the meeting on the bulletin boards of the various hospitals of the city in places where it might be to advantage of those who want to come. We have asked, in turn, that the hospitals call here the day before and announce the important clinics or the interesting features that they might have on. Those of you who are interested in those features can ask here every day as you come in.

As far as the report of the Committee on Medical Economics is concerned, we had an all-afternoon session yesterday,

and the members of the committee are trying their best to find out what the majority of the delegates in Kentucky want in the way of economic legislation or economic facts. These men have questionnaires and are trying to fill them out, and it will be of great help to us if you have some problems on your mind, if you will bring them to me or to the members of the committee, who are as follows:

JOHN W. SCOTT, Lexington
L. S. HAYES, Louisa
W. T. LITTLE, Calvert City
A. W. DAVIS, Madisonville
J. W. ACTON, Glasgow
A. D. STEELY, Bardstown
A. M. LEIGH, Louisville
J. P. WYLES, Cynthiana
CARL NORFLEET, Somerset (Dr. Ewers is serving for him)
R. L. COLLINS, Hazard
W. H. PENNINGTON, London
A. CLAYTON MCCARTY, Louisville, Chairman.

That is one man from each district in the state. If you will carry your problems to that man or let me know, we are having a meeting again tomorrow night with the idea of drawing up resolutions to present here on Thursday. We feel there are a good many matters of importance that should come before you for attention, and we want to present them in the best way possible so they will meet with your approval. If we can have your cooperation in this regard I believe we will be able to give you a report that you will approve.

The third committee is the Committee on Arthritis appointed last year. All we can say is that we have a small subcommittee here with a scientific exhibit and we are going to try to push that work this year.

IRVIN ABELL, Louisville: I move the reports be accepted.

. . . The motion was seconded and carried. . .

PRESIDENT HOWARD: That completes what there is on the program. Is there any new business?

GAYLORD C. HALL, Louisville: Two of the members of my committee have temporarily deserted, but they intend to come back. Dr. Bass, Dr. Dean and myself were appointed a committee by the Eye and Ear Section of the State Medical Association which met here in this hotel in May, to bring before the Delegates of the general Association some word regarding activities of the optometrists who are under the nominal control of the State Board of Health, and in order to bring this matter to your attention I beg leave to read to you a letter which was read at that meeting, and some comments thereon which were included in the August issue of the JOURNAL. This is the letter:

"Doctor:

"When there is a question about the condition of your patient's eye, refer him to an optometrist for examination.

"Your patient will get a real examination, thorough, with careful search for any pathology.

"You will get a real report.

"Not alone as a matter of ethics, but also because he does not practice medicine, you are absolutely sure that the optometrist having cared for the refractive and muscular anomalies, will send your patient back to you for such medical attention as you deem it wise to give him.

"In referring your patient to an optometrist for eye examination you are referring him to a real specialist, a specialist who will not even be tempted to give the slightest medical advice, for the simple reason that he is not practicing any branch of medicine, his work is refraction and orthoptics.

"Yet the optometrist is exceedingly careful in his search for eye diseases and for ocular manifestation of general disease, as is abundantly testified by the large number of patients who are constantly being referred by optometrists to general practitioners for their attention.

"The welfare of the patient demands the cordial operation of the optometrist and the physician. You will find the ethical optometrist glad to cooperate fully and skillfully with you to the benefit of your patients.

"We hope you are personally acquainted with the optometrists of standing to whom you can refer patients. If you are not, a line to the Optometric Society or a call will bring you a list of ethical optometrists of standing.

"(Signed) Louisville Optometric Society, Starks Building."

Now, gentlemen, that is the most open and offensive way of saying that these men are trying to alienate the general profession from a class of men who I think have always had an honorable standing among you, namely, the regular qualified eye physicians. As such I think it should be resented and the columns of the JOURNAL be used to counteract such propaganda as that.

As the result of that letter the following

resolutions were adopted: "Dr. Hall moved that a committee from this Section be appointed by the President to bring this letter to the attention of the House of Delegates at the coming meeting of the Kentucky State Medical Association, and expressed the opinion that this action would result in having the Secretary of the State Board of Health take steps to restrict some of the assertions made in the letter.

"Dr. D. M. Griffith, Owensboro, seconded Dr. Hall's motion. He also expressed the view that this would defer consideration of the matter for nearly six months, and that in the meantime many more such letters would be sent out, and moved, as an amendment to Dr. Hall's motion, that the Kentucky State Medical Journal be requested to give state-wide publicity to the matter through its columns.

"Dr. F. C. Thomas, Lexington, who said that Lexington physicians had received a similar letter from a Lexington optometrist, moved as a further amendment to Dr. Hall's motion that a committee of three Louisville members of the Section be appointed to wait upon Dr. McCormack, Secretary of the State Board of Health, and endeavor to have him immediately take steps through the columns of the JOURNAL to counteract this sort of propaganda.

"Amendments offered by Dr. Thomas and Dr. Griffith were accepted by Dr. Hall, and upon being put to vote the original motion with both amendments was declared carried. The President appointed on this committee: Gaylord C. Hall, M.D., Louisville; A. L. Bass, M.D., Louisville; Walter Dean, M.D., Louisville." That is the reason we are here.

In regard to the letter, I think that the State Board of Health can take no action simply because it is a letter from an alleged association and not an individual. Is that right, Dr. McCormack?

SECRETARY MCCORMACK: Yes.

However, I think we could take action if any doctor responded to the letter.

DR. HALL: We do feel that the columns of the JOURNAL should be open and ready to counteract such propaganda as this.

Regarding what could be done and what the House of Delegates could ask the State Board of Health to do, I have here the medical enforcement law with regard to drugless healers, and I find three sections here in the law that seem to apply, namely a part of the oath, for instance, which they take on being registered.

"I hereby pledge my solemn word of honor under oath that I will not become an itinerant, soliciting or advertising practitioner and will not make or join with others in making any announcements or claims to the public which have not been submitted to the State Board of Health by the assistant examiner as provided by law for my school with his recommendations, and officially approved by such Board."

Rule 6 under Rules and Regulations made under the Medical and Drugless Practice Acts, this rule being for optometrists, reads: "John Doe, optometrist," and the address, not DR. John Doe.

And under Rule 9: "Announcements or advertisements other than the above forms must be submitted to and recommended by the assistant examiners for any of these systems of practice and approved by the State Board of Health."

Gentlemen, these men have said they wouldn't advertise except with the approval of their assistant examiners, and here is a letter that was sent to an individual by Will Sales Optical Company: here is an optical examination certificate by David Roth Sons. You all are familiar with the radio broadcasts of Howe, Sales, Roth, and practically all these men who run optometry and eye examinations in connection with a jewelry store.

We feel that the action of these men is transcending the bounds of propriety and we feel that we have a right to ask that some of these activities be curtailed. We simply have been asked by the Eye and Ear Section of the State Association to bring this matter to your attention for whatever action you men feel is necessary, and we trust that you will see the matter as we do.

PRESIDENT HOWARD: Is there any discussion?

W. B. ATKINSON, Campbellsville: Mr. President, I think this is well worth considering. It should go just a little bit further. In the Sixth District there was one occasion where an optometrist not only was practicing his profession, but he got a man from Louisville, an M.D. who was a specialist in eye, ear, nose and throat work, to come to his office and to cooperate with him, and he advertised very widely over the section of the state—it was in at least six newspapers—that Dr. so-and-so, specialist, would be at Dr. so-and-so's office on certain dates, and it said further-

more the best specialist in the State of Kentucky on eye, ear, nose and throat. I would not call him that. The thing continued for a while and I haven't heard anything from it since because there was a little difficulty that cost about three or four days' time and I have an idea that that discouraged it, but these optometrists are sometimes encouraged by members of our profession who are not quite as careful, or as thoughtful, probably, as they should be.

L. S. HAYES, Louisa: I move that a committee be appointed by the Chair to investigate this matter and report back at our last meeting on Thursday.

IRVIN ABELL, Louisville: With recommendations.

DR. HAYES: I accept that.

. . . The motion was seconded and carried. . .

PRESIDENT HOWARD: On this committee I will appoint Dr. Hayes, Dr. S. C. Smith, and Dr. Linton.

Is there any other new business?

I want to compliment every man here, and these ladies, too. All these reports have come in promptly, we have gotten through, and I thought we would get only half through tonight. I sincerely appreciate this, men, because you have come with good reports. It is an effort to study any one of these subjects and get up a report on it. You may think you know something of a subject, but when you go to studying it and reporting on it before a group of men, that is quite different if you are sincere in it. These have been good reports and I appreciate being your Chairman.

I am ready to entertain a motion to adjourn.

. . . Upon motion regularly made, seconded and carried, the meeting adjourned at 9:15 p.m. . . .

THURSDAY MORNING SESSION
OCTOBER 3, 1935

The third and final session of the House of Delegates convened at 8:00 a.m., President J. B. Lukins, Louisville, presiding.

. . . Roll Call. . .

THE SECRETARY: A quorum is present, Mr. President.

PRESIDENT LUKINS: Report of the Committee on Credentials.

A. M. LEIGH, Louisville: The Committee has examined the roll of the House of Delegates and checked with the credentials and find that they correspond in every particular.

PRESIDENT LUKINS: Nominations are now in order for President-Elect of the Kentucky State Medical Society.

L. C. HAFER, Covington: Tradition tells us that on the occasion of the meeting of two men concerned in the prosecution of a certain work in ancient times, one of them addressed the other with the following words: "This is an opportunity that I have long sought." I should like to borrow that phrase as a preface to what I shall have to say.

This is a particularly interesting and epoch-making era in the field of medicine, not only from the scientific point of view, but also from the economic. We are concerned greatly as to the future of our profession, and rightly so. We are in a maze of schemes and plans of various sorts of socialized medicine.

We are standing at the cross-roads, so to speak, without the friendly guide-post to direct us, and for this very reason we need a united profession, with every doctor in this state enrolled under capable leadership to guide us to a social system in medicine where the policies and practices will be dictated by those most able and most sympathetic to suffering humanity.

We have in northern Kentucky a man who by virtue of his training in both medicine and business possesses the necessary qualifications for such leadership. And parenthetically may I say that in the history of the Kentucky State Medical Society, in so far as I have been able to learn, this honor has come to northern Kentucky only once, and that was fifteen years ago.

The gentleman of whom I speak has by his regular attendance at the county, district, state and national medical societies manifested a keen and unselfish interest in the welfare of the profession at large. He is a very able surgeon, a Fellow of the American College of Surgeons, an upright man with unimpeachable character, a scholar and a gentleman. I consider it an honor to present the name of Joseph Donaphin Northcutt for this high office. (Applause)

W. M. MARTIN, Louellen: I want to second that nomination.

GEORGE GREGORY, Versailles: I should like to move that the nominations be closed and the Secretary be instructed to cast one ballot for President-Elect.

. . . The motion was seconded by several delegates and carried unanimously. . . .

SECRETARY MCCORMACK: Mr. President, I have the very distinguished honor of casting the ballot of the House for the

President-Elect of the Association.

PRESIDENT LUKINS: I declare Dr. Northcutt unanimously elected President-Elect of the Kentucky State Medical Association.

Nominations are now in order for First Vice President.

VIRGIL KINNAIRD, Lancaster: I would like to nominate Dr. W. A. Smith, Danville.

. . . Dr. G. L. Simpson, Greenville, was nominated. . .

SECRETARY MCCORMACK: If the other nomination is made now from Jefferson County it will simplify matters. There are to be three, and one of them comes from Jefferson County.

E. L. HENDERSON, Louisville: I nominate Dr. James Pritchett.

. . . Dr. Pritchett, being a member of the House, was declared ineligible. . .

SECRETARY MCCORMACK: I nominate Dr. Emmet F. Horine for Vice-President. He is Chairman of the Committee on Scientific Work.

I move you, sir, that the Secretary be authorized to cast the ballot for the three Vice-Presidents, and in arranging them that they be arranged in the regular rotation in which they would be geographically from the record, the President coming from Northern Kentucky, the First Vice-President would come from Western Kentucky, the Second Vice-President from Louisville, and the Third Vice-President from Eastern Kentucky. That would be the regular arrangement.

E. L. HENDERSON: I second the motion.

ASA W. NICKELL, Louisville: It is erroneously stated that Dr. Pritchett is a delegate. I represent Dr. Pritchett as an alternate.

SECRETARY MCCORMACK: He was elected for two years, though, so he is still a delegate.

The nominee from Western Kentucky, Dr. Simpson, would be First Vice-President, the nominee from Louisville, Dr. Horine, would be Second Vice-President, and the nominee from Eastern Kentucky, Dr. Smith, would be Third Vice-President.

. . . The motion was carried. . .

PRESIDENT LUKINS: The three Vice-Presidents are elected as nominated, Dr. Simpson, Dr. Horine, and Dr. Smith.

Next is Delegate to the A. M. A. to succeed Dr. Virgil Simpson, for two years.

BARNETT OWEN, Louisville: I nominate Dr. Virgil Simpson to succeed himself.

. . . The nomination was seconded. . .

W. B. ATKINSON, Campbellsville: I move that the nominations close and the Secretary be instructed to cast one ballot.

. . . The motion was seconded and carried unanimously. . .

SECRETARY MCCORMACK: I take great pleasure in casting the ballot of this House for Delegate to the American Medical Association.

PRESIDENT LUKINS: Dr. Virgil Simpson is unanimously elected to succeed himself as Delegate to the A. M. A.

Next is Orator in Surgery.

THOMAS J. CRICE, Louisville: I wish to nominate for this office a man we all know. He is one of our young men. He is Secretary of the Louisville Association, a Fellow of the A. M. A., a member of the American College of Surgeons, Fellow of the Southern Surgical Association. This man is one of our leading men and is one who will fill this office with honor and with a great deal of dignity, Dr. D. P. Hall, of Louisville.

SECRETARY MCCORMACK: I second the nomination.

PRESIDENT LUKINS: It is moved and seconded that Dr. D. P. Hall be elected Orator in Surgery.

H. H. HUNT, Mayfield: I move that the Secretary cast the unanimous ballot.

. . . The motion was seconded and carried. . .

SECRETARY MCCORMACK: I have the honor of casting the ballot of the House for Orator in Surgery.

PRESIDENT LUKINS: Dr. D. P. Hall is unanimously elected Orator in Surgery.

We are now ready for suggestions for Orator in Medicine.

J. E. EDWARDS, Lancaster: We have had the pleasure of listening to some very able men, as you all know. I rise to nominate a young man of Lexington who I am sure will measure up favorably to any of the men who have represented us before. The man I wish to nominate is Dr. John Harvey of Lexington.

. . . The nomination was seconded. . .

A. CLAYTON MCCARTY, Louisville: I move the nominations be closed.

. . . The motion was seconded and unanimously carried. . .

GEORGE GREGORY, Versailles: I move the Secretary cast the ballot for Orator in Medicine.

. . . The motion was seconded and carried. . .

SECRETARY MCCORMACK: I have the honor of casting the ballot of the House for Orator in Medicine.

PRESIDENT LUKINS: I declare Dr. John

Harvey of Lexington elected Orator in Medicine.

The time has expired of the Councilor for the Second District. That is Dr. Griffith's District, Owensboro.

S. C. SMITH, Ashland: I move that Dr. Griffith be reelected.

. . . The nomination was seconded by Asa Nickell, Louisville. . .

E. L. HENDERSON, Louisville: I move that the nominations close and the Secretary be instructed to cast one ballot for Councilor for the Second District.

. . . The motion was seconded and carried unanimously. . .

SECRETARY MCCORMACK: I have the honor of casting the ballot of the House, Mr. President.

PRESIDENT LUKINS: Dr. Dan Griffith is unanimously elected to succeed himself as Councilor of the Second District for five years.

Dr. Greenwell's time has expired in the Fourth District.

C. L. SHERMAN, Millwood: I would like to nominate Dr. Greenwell to succeed himself.

ASA NICKELL, Louisville: I move the nominations be closed.

. . . The motion was seconded and carried. . .

E. L. HENDERSON, Louisville: I move that the Secretary be instructed to cast the ballot of the House for Councilor for the Fourth District.

. . . The motion was seconded and carried unanimously. . .

SECRETARY MCCORMACK: I have the honor of casting the ballot of the House for Councilor for the Fourth District for a term of five years.

PRESIDENT LUKINS: Dr. J. I. Greenwell, New Haven, is unanimously elected Councilor of the Fourth District to succeed himself.

Dr. Virgil Kinnaird's time expires as Councilor for the Seventh District.

W. M. MARTIN, Louellen: I move that Arthur McCormack reelect Virgil Kinnaird. (Laughter)

PRESIDENT LUKINS: All in favor of this motion make it known by saying "aye," opposed. It is carried.

SECRETARY MCCORMACK: Mr. President, I have the honor of casting the ballot of the House for Councilor for the Seventh District for a term of five years.

PRESIDENT LUKINS: Dr. Virgil Kinnaird, you are elected to succeed yourself.

The next thing on the program is the place of meeting for the year 1936.

SECRETARY MCCORMACK: Western Kentucky.

H. G. REYNOLDS, Paducah: Mr. President, over a period of many years some of the older men here have visited Paducah in attendance on the State Medical Society. Possibly your last visit will be remembered in not a very pleasant way. Our hotel facilities at that time were rather meager and some of you had to sleep on the bed and some under the bed and sometimes two in the bed and some on cots. I want to say to you, as can be attested to by our Secretary, and any number of doctors who have visited Paducah in the last few years, that we have hotel facilities that are equal to any in the state. We can give every one of you a bed. You are invited down there by every civic organization that we have in the City of Paducah, the Mayor of the City, the City Manager, and the hotels.

The Irvin Cobb Hotel, which would be the logical place to have the meeting, has indicated in its letter to me that all the facilities for holding the meeting would be furnished without any charge, which of course is usual.

We really want you to come to Paducah. I know those of you have ever visited Paducah that the hospitality has been unbounded. We are not going to open any homes to you because it isn't necessary. We will be glad to see you and very likely will invite you, but we don't want you to feel that you have to go there to sleep because we have other places, four or five hotels, and these two hotels particularly are new and if you come down there you will be comfortable.

We have three roads that lead to Paducah from Central and Eastern Kentucky, 62, 68 and 60. I have driven over all of them, recently over 62, and I was very much pleased at the little traffic over that road and the less mileage—fifty miles, I think, less. All those things make for easy access to Paducah.

We have air-conditioned sleepers that come into Paducah, leaving here at 9:40 at night and you get off your sleeper the next morning at seven o'clock. In leaving Paducah, if you want to get on your sleeper at nine o'clock you arrive in Louisville about 7:45.

I really think that we have all the facilities for taking care of you, and I know those of you who have visited Paducah will want to come back again. (Applause)

PRESIDENT LUKINS: Are there any other invitations?

C. F. LONG, Elizabethtown: I move that

we accept the invitation from Paducah.

. . . The motion was seconded. . .

ASA NICKELL, Louisville: I move nominations be closed, Mr. President, and the Secretary be instructed to cast the ballot of the House.

. . . The motion was seconded and carried unanimously. . .

SECRETARY MCCORMACK: I take pleasure in casting the ballot of the House.

PRESIDENT LUKINS: Paducah is selected as the meeting place for 1936.

I will appoint Dr. Luther Bach and Dr. George Gregory to escort the newly elected President to the room.

Is the Crippled Children's Committee ready to report?

BARNETT OWEN, Louisville: It is ready, but the Chairman, Dr. Garr of Lexington, has been delayed and I will present the report.

The report was read.

SECRETARY MCCORMACK: I would like to ask unanimous consent that the report be received and filed. It is extremely important. There is some controversy in regard to some suggestions that have been made at this meeting in regard to the principles involved in the work of the Crippled Children's Commission. I do not think there is the slightest doubt but that the work that has been done by that Commission in Kentucky has practically unanimous approval from every physician and every citizen of the state, and I think we ought to go on record ourselves as approving the work. It has been done in the most remarkable way; it has been done by our doctors without remuneration or consideration except for the poor children that are involved in the thing. I think it is one of the noblest things the profession of Kentucky has done.

I would like to ask unanimous consent, Mr. President, that we approve the work of the Kentucky Crippled Children's Commission and ask for a rising vote so we can do it unanimously.

PRESIDENT LUKINS: All in favor of this stand up. It is unanimous.

REPORT ON WORK OF THE KENTUCKY CRIPPLED CHILDREN COMMISSION

During its last fiscal year, July, 1934 through June 30, 1935, the Kentucky Crippled Children Commission has made the following record:

Number of admissions to hospitals.....868
Number of new cases treated.....527
Number of cases examined in free clinics 2,009
Number of clinics held exclusive of weekly clinics in Lexington and monthly clinics in Ashland..... 22
Number of counties included in clinics..... 77

In order to examine and to treat as many crippled children at the lowest practicable cost, the State is now divided into four clinical districts with a public health nurse employed by the Commission to promote clinics and to to visit the homes in each district. These districts are as follows:

1. Big Sandy District—10 counties. Treatment center: Ashland.

2. Southeastern and Central District—39 counties. Treatment centers: Lexington and Louisville.

3. Blue Grass District — 31 counties. Treatment center: Lexington.

4. Western District—40 counties. Treatment center: Louisville.

A clinic held weekly at the Good Samaritan Hospital in Lexington provides free out- patient service to cases in the Blue Grass area. A similar clinic is held monthly in Ashland for the benefit of the Big Sandy District.

Semi-annual clinics are being held in Hazard, Somerset, Paducah, and quarterly clinics in Owensboro and Covington. The establishment of these periodic clinics has proved of inestimable value in supervising the condition of patients who have received hospital or surgical treatment.

State Inspector and Examiner, Nat B. Sewell, in his report to the Governor, dated September 14, 1935 makes the following statements about the Crippled Children Commission:

"The accomplishments of the last fiscal year, all things considered, probably are the most outstanding in the life of the Commission. Clinics were held in districts embracing 77 counties in which over 2,000 cases were examined. This number of cases is more than double the number for 1933. The number of cases admitted to hospitals was 868 or the largest on record. The large increase in the services rendered by the Commission in the past two years has been made possible very largely by the donation of services of physicians and surgeons in the cities and of course, in a lesser degree throughout the state The Commission has sought and has received the cooperation of hospitals, physicians, surgeons, nurses, and manufacturers of supplies throughout the State in reducing the various classes of costs to the lowest minimum consistent with the best srevices available. As a result, a very much larger number of crippled children have been restored to physical fitness, or greatly improved, than could have been possible if standard schedules of costs had been charged."

C. C. GARR, Lexington, Chairman.

GEORGE GREGORY, Versailles: I have the

honor of presenting the new President-Elect to this House of Delegates of the Kentucky State Medical Association. (Applause)

J. D. NORTHCUTT, Covington: Mr. President, Dr. McCormack, Fellow Physicians: I take it that this is a gesture of friendly courtesy. You have given Northern Kentucky the presidency without opposition. It would be nice if our state and national elections would in a manner imitate what you have done.

First I want to thank the boys back home, because of their loyal support and willingness for me to represent them as their President. Second, I want to thank the Society as a whole, and third, if I knew how I would make you the best President that you ever had, regardless of the kindly feeling and the admiration I have for the Past Presidents. So if you know what and how I can do that I will be glad to do it. (Applause)

PRESIDENT LUKINS: Report of the Cancer Control Committee, L. Wallace Frank, Chairman.

L. WALLACE FRANK, Louisville: Mr. President and Gentlemen of the House of Delegates of the Kentucky State Medical Association: Your Committee for the Control of Cancer submits the following report:

During the past year the subject of "Cancer of the Lip, Tongue and Oral Mucous Membrane" was presented before various county societies. In addition there were six district meetings at which doctors from more than forty counties were present.

We, your committee, feel that the control of cancer is dependent upon two essential factors.

First, we must convince the laity that cancer in its early stages is curable, that when in a curable state it does not cause pain. Any abnormal discharges or any change in the character and the duration of menstruation is a sign that something is wrong and the doctor should be consulted immediately. Furthermore, any sore within the mouth or on the lip which does not respond to simple treatment may be a beginning malignancy and therefore medical advice should be had. Tumors in the breast demand immediate medical attention and the person should not be satisfied with the statement, "If it doesn't bother you don't bother it." Too often has the laity listened to non-medical advice and as a result lesions which are curable in their early stages are permitted to progress to such an extent that all hope is lost.

Second, we must educate the doctor as to the signs and symptoms of early malignancy. The picture as presented in most textbooks is that of cancer in its later stages. Other than cancer of the skin the average rural physician may see six, eight or possibly ten cases of cancer during his lifetime. It therefore must follow that he is not as familiar with this disease as an individual who examines or treats ten to fifty cancers a year. Your committee believes that in addition to meetings such as we have had it would be well to have clinics throughout various districts of the state in order to educate the physicians regarding the appearance of early malignancy.

We, the committee, also thought that it is not amiss to outline what we feel is the best method of treatment of cancer in and about the mouth.

In the first place, we would emphasize the fact that cancer of the tongue, floor of the mouth, cheek, palatine arches and naso-pharnyx metastasize early. Cancer of the lip does not metastasize so early as intra-oral cancer and yet in many cases that have gone to operation cancer is found in the glands of the neck when not suspected. We would urge that all palpable glands of the neck associated with carcinoma of or in and about the mouth should be considered cancerous until proven otherwise. We therefore advocate a radical dissection of the neck in these cases, combined with post-operative irradiation.

In so far as the local lesion is concerned, many methods of treatment are available. Radiation, local excision and electro-coagulation all have their advocates. We make no plea for any one of these, but urge the necessity of complete eradication of the primary lesion at the first treatment. Cancer of the tonsil and naso-pharynx is not amenable to surgery according to the records of the Radium Hemmet. When the malignancy is so situated your committee would suggest that radical surgery be not attempted but that the patient be subjected to radiation of intensive character.

Our subject for the coming year will be cancer of the breast.

Submitted by the Committee for Control of Cancer:

L. WALLACE FRANK, Chairman
J. DUFFY HANCOCK
C. A. VANCE
A. O. TAYLOR
A. W. DAVIS
PAUL GRONNERUD.

. . . A motion was regularly made, seconded, and carried that the report be accepted. . .

. . . The following report of the Committee on Medical Ethics, was filed by the Chairman, Dr. John H. Blackburn:

"It is characteristic of a wise man to act on determinate principles; and of a good man to be assured that they are conformable to rectitude and virtue. The relations in which a physician stands to his patients and to the public are complicated and multifarious; involving much knowledge of human nature, and extensive moral duties. The study of professional morals therefore cannot fail to invigorate and enlarge your understanding; whilst the observance of the duties which they enjoin will soften your manners, expand your affections and form you to that propriety and dignity of conduct which are essential to the character of a gentleman." Thus wrote Dr. Thomas Percival of Manchester to his son who was studying medicine in the latter part of the seventeen nineties. Dr. Percival's rules of conduct for the guidance of physicians were first published in 1803.

It was in 1847 that the American Medical Association was organized, and one of its first acts was the adoption of the National System of Medical Morals for the guidance of the members of the Association and for the information of the whole profession and of the public. A study of our present Code of Ethics will show that it was taken in very large part from the writings of Dr. Percival, in fact the entire Code was an adaptation of his suggestions.

In the original System, adopted in 1847, the first chapter considered "The Duties of Physicians to Their Patients and the Obligations of Patients to Their Physicians." The first article, consisting of seven sections, set forth the duties of physicians to their patients, and the second article of ten sections gives extended consideration to the obligations and duties of patients to their physicians.

Chapter II. Of the Duties of Physicians to Each Other and to the Profession at Large.

Chapter III. Of the Duties of the Profession to the Public and Of the Obligations of the Public to the Profession.

During the last decade of the last century there was much agitation for an "abbreviated" Code of Ethics, and in 1903 the American Medical Association adopted a "suggestive and advisory document" in which were some important omissions and some questionable additions. May we call attention to the fact that in the abbreviated Code, Chapter I deals with the duties of physicians to their patients without any reference whatever to the obligation of patients to their physicians. Also in Chapter III there is a full consideration of duties of the profession to the public and no mention of any reciprocal obligations on the part of the public to the profession. We are enjoined to inform the public as to matters of public health, hygiene, quarantine regulations, medico-legal questions, etc.; and we are told that "when pestilence prevails, it is our duty to face the danger, and to continue our labors for the alleviation of the suffering people, even at the risk of our own lives," but nothing is said as to the mutual obligation on the part of the public to give support to the efforts of the medical profession in maintaining the health of the community.

In these days of economic stress and disturbance we are still hearing of the minor and major violations of the Code in good old Kentucky, but we are not unmindful of the fact that you cannot legislate morals into the physician any more easily than you can into the average layman. There is no penalty prescribed by the national system of medical morals for a violation of its provision, and someone has aptly said that "there is no punishment connected with the violations of the laws of medicine except sting of conscience and disgrace."

May we suggest that for the information and delectation of those of the Kentucky physicians who have been long in the field of professional labor, our KENTUCKY STATE MEDICAL JOURNAL publish in our early issue or as a supplement, the original 1847 National System of Medical Morals, in order that we may the better understand the mutual and reciprocal relations existing between the members of the medical profession, the public, and the state.

May we further suggest that our University of Louisville Medical School give as a part of the curriculum a study of the history and development of the Code of Ethics in order that the students of medicine may be trained in rules of conduct that will properly fit them for the practice of the dignified and learned profession of medicine.

Committee:

W. I. HUME
R. L. SMITH
JOHN H. BLACKBURN, Chairman.

Upon motion, duly made and seconded,

the report was adopted.

PRESIDENT LUKINS: Next is the report of the Committee on Medical Economics, Dr. McCarty.

A. CLAYTON MCCARTY, Louisville: We contacted the Bureau of Medical Economics of the American Medical Association. Your committee, which represents one man from each District of the state made efforts to contact the people at home. We have gotten questionnaires sent in from the secretaries of the societies about the state and then have waited until this moment to present our report so that anything that is presented on the floor of the House of Delegates might be incorporated.

The report is brief. We threw out a great deal of material that we didn't think was apropos without making the report too long, and we are trying to make suggestions that we believe are best as the result of the past year's work.

Your Committee recommends that a full-time doctor be placed in charge of this work at the earliest possible moment for proper study and administration.

Notwithstanding the fact that many predict state medicine as certain to come (and that the day is near at hand) the Committee on Medical Economics is unalterably opposed to any form of state medicine now known to be in existence or proposed.

City and county governmental agencies must be encouraged to take care of local problems, and individuals should be stimulated to adequately budget their sickness problems and insure against same.

While this committee feels that the method of handling cases by the U. S. Employees' Compensation Commission and the fees allowed are grossly unjust, it is felt also that the individual physician should be permitted to handle these cases if he so desires.

Maybe I should pause there; there may be just a few of you who do not know what the United States Employees' Compensation Commission is. Our greatest problem this year, you will remember, early in the year, was this business of relief administration in the practice of medicine. That is a thing of the past. As Mr. Goodman puts it, they have gone out of the medical business in the relief game. There is no more of the relief such as we have been talking about for the past few years and objecting to, the fees and so forth. From now on the only ones who will come under that sort of care will be those who are working on these new pay government projects. Those men and women, when they are hurt in an accident, will be taken care of under this United States Employees' Compensation Commission.

SECRETARY MCCORMACK: Direct service-connected disability.

A. CLAYTON MCCARTY: Yes. That has to do with the work that they are doing. In the first place, in brief, these men will be taken to a government hospital or some other agency that is willing to take care of them. That is the first place that the government directs they be taken. If no such place is available or the work is not being carried on properly, then they can come to the doctors individually and ask that that service be taken care of. As far as we can tell in the committee the work will be paid for something like on the scale that you have been receiving for the other type of work, which is certainly inadequate, and it will be handled to a large extent by committees not composed of doctors, who will in many cases, I am sure, make up their own minds as to who is the best doctor, considering the circumstances at hand.

That whole set-up doesn't seem to us as a committee to be a particularly fine thing, but we felt there was no use to propose here on the floor or even to discuss at great length in the committee what should be done about the old relief work, because that is a thing of the past unless the government revises its whole schedule and goes back into that business again.

Those who are not doing this active work and are therefore not entitled to this compensation care for injury, must be taken care of by the county and city agencies in that community. The government is no longer, apparently, going to take care of that class of our folk.

As we say in this section of our report: While the committee feels that the method of handling cases by the United States Employees' Compensation Commission and the fees allowed are grossly unjust, it is felt also that the individual physician should be permitted to handle these cases if he so desires.

We did that partly because we thought it was the best thing to do and partly because it was the only thing to do. The reason we say the best thing to do is that in some communities in some places for some particular doctors that might be a good thing for them to handle these cases in spite of the fact that the fees are small, and so forth. It didn't seem right that we

who weren't interested in this type of work should say that that doctor couldn't do it. Last year we went on record at Harlan in this Association as being entirely against all that type of relief, and yet it continued right on through the year, so our saying they couldn't do it probably wouldn't keep them from doing it anyway.

County health units should be encouraged in the practice of preventative medicine and education work in groups only. Individual patients should not be cared for by such units unless referred by private physicians.

While the handling of biologics and the performance of laboratory work by the state health agencies is generally commend, it is strongly urged that individual physicians use greater discrimination in seeing that free service of this kind be requested for indigent patients only.

In an effort to provide young practitioners for rural communities, it is proposed that funds be requested from philanthropic agencies or the state legislature to provide tuition for qualified students in the University of Louisville School of Medicine; said student in return signing a contract specifying that upon the granting of a license he will return to his home county for ten years of practice.

That is in effect in some states and is working out very well. We thought if we might try to urge the same thing in Kentucky it might be very helpful in some of the communities where doctors are not returning to practice.

Through the Committee on Public Relations, the following legislation is requested: Many of these things were referred to us last year at Harlan and some have come up since. There has been no session of the legislature since. There will be one before we meet again. I believe it is the function of the Committee on Public Relations to refer these things to the legislative bodies, but we in turn should refer them to them.

(a) A law providing for a prior claim for physicians on the estate of deceased individuals. (The undertakers have it now; we don't have it. We thought it best not to mention the undertakers particularly, just to ask that we be given a show too.)

(b) A law granting a prior claim to physicians attending those injured in automobile accidents.

(c) A law providing for adequate funds to care for tuberculous patients in Kentucky.

Just a word of explanation there. At the very first meeting, before this meeting started, we were all cocked and primed. We thought we ought to give you something definite instead of just objecting to everything. One thing we wanted you to have was our strong support of a state tuberculosis institution. Before we could get organized and put that across it already to a large extent had been put across, so we did feel that we should say in here that some provision be made to take care of these people after an institution is built, and that the work be improved, if possible, by proper funds.

(d) A law providing for sterilization of habitual criminals, insane and feebleminded.

(e) A law granting physicians privileged communications with their patients. The lawyer and the clergy now have that privilege and the doctors, I believe, are supposed to have it, but it was granted them through a section that is not clearly understood, certainly in the courts, and doctors are not allowed that. I can testify personally that if you bring that up before the judges I have seen, they will not allow it, you must come out anyway. I think that should be clarified.

(f) A glazed-glass law, as effective in other states, should be passed. That, you know, prevents selling glasses in the ten-cent stores.

Respectfully submitted,

Drs. Little, Scott, Collins, Ewers, Steely, Hayes, Leigh, Acton, Davis, and McCarty.

H. H. HUNT, Mayfield: I move the report be received and filed.

. . . The motion was seconded and carried. . . .

PRESIDENT LUKINS: Report of the Committee on the JOURNAL.

LUTHER BACH, Covington: The KENTUCKY MEDICAL JOURNAL is edited under the supervision of our Council and publishes all papers read before the State Association and many of the papers read before the district and county societies when forwarded to the Editor.

The JOURNAL is a true reflection of the profession in our state. A careful inspection of the twelve issues during the past year reveals many articles and papers published that are highly scientific, thoughtfully prepared and thoroughly practical. Such papers when carefully studied furnish material that no member in active practice can afford to miss. They are profitable for both the writer and the reader.

Occasionally papers may appear which have been hurriedly prepared without the proper thought and consideration which do not reflect credit on the author or profit for the reader.

It is up to each member of this Association to make your JOURNAL instructive and worth while by preparing material that is worth while which can only be done by careful, thoughtful and serious consideration and investigation before rendering papers for publication.

It is of interest to note that the pages of our JOURNAL have been kept comparatively free from the many plans and topics which are being so freely discussed in our component societies, but which have not materialized sufficiently to be of value to the profession as a whole.

It is not the intention of this committee to discriminate unjustly against any member of our Association, but it is our belief that a committee should be appointed from our Association representing the various branches of medicine, whose duty should be to inspect each paper before publication and that only worth while papers be accepted for publication, which in our opinion would be a stimulus for better papers and a better JOURNAL.

A report of the Business Manager will be found on page 414 of the September issue, also the Auditor's report on page 418 in the same issue. These reports are self-explanatory and need no comments.

We, the committee, find that every copy of the JOURNAL for the past year contains material of much value, and that it reflects much credit on our Association, and we believe that the Council, the Editor, and all their co-workers deserve much credit for the publication they have given us during the past year.

Respectfully submitted,

LUTHER BACH.

SECRETARY MCCORMACK: Mr. President, I should like to call your attention to the fact that the proposal here is provided for in the Constitution at present. The Editor may reject with the consent of the resident Councilor for the Fifth District any paper that is submitted for publication, under the provisions of the By-Laws. However, that option has only been utilized in regard to one classification in twenty-eight years in which I have been the Editor of the JOURNAL. I have only called on the Councilor for assistance one time, and that is in regard to a highly controversial matter that is raging in the lay press more than it is in medical circles and regards birth control. We have had seven or eight or nine articles submitted on that subject by some of our very best members who are very earnest about it and very enthusiastic on the subject, and we rejected all of them because we do not feel or because I really think it is better not to put that in our JOURNAL at the present state of knowledge on the subject. I am against the whole thing as far as I personally am concerned, absolutely and completely, and yet the American Medical Association has appointed a committee to investigate the scientific aspects of birth control. That is all right for them to do it, and after they have investigated it we may know something scientific about it, but at present it is largely a religious scrap and I do not believe that our JOURNAL should be filled with that type of material. That is my own opinion. That is a matter for you all to decide—it is your JOURNAL, not mine.

The recommendation of the committee in this respect is a departure from our procedure for the last twenty-eight years. We published every article that has been sent to us by the Secretary of the County Society in these twenty-eight years but one, and that one was lost. The author couldn't reproduce it and we couldn't find it.

We have felt that it was better to publish all the articles sent in by the Association. We feel that every member of the Association is an equal owner in the JOURNAL; we believe the democracy of the organization is better cared for in that way, and the Council has recommended that that policy be continued. Now the question between those two thoughts should be determined by the House of Delegates, as it is a matter that is entirely within your control.

PRESIDENT LUKINS: You have all heard this report. What shall we do with it?

BARNETT OWEN, Louisville: I move this report be received and filed.

. . . The motion was seconded and carried. . .

Dr. Leon Solomon was recognized on a point of personal privilege. After discussion the matter was referred to the Council.

SECRETARY MCCORMACK: The Council will meet immediately after the adjournment of this session.

C. A. VANCE, Chairman of the Council, reported the current accounts approved by the Council, to the House.

CHAIRMAN VANCE: Is there any further business?

Report of the Committee on Report of the Council.

BARNETT OWEN, Louisville: The Committee on the Report of the Council has had this report before it and read it very carefully. It consists of some twenty-odd pages, and every one of them contains some very fruitful information. The Council should be commended thoroughly, and I want to go on record as the Chairman of this Committee as approving the report of the Council. I move the report be adopted. That includes the appropriations for the accounts for the current session.

. . . The motion was seconded and carried. . .

SECRETARY MCCORMACK: I would like to ask for a rising vote on that question. There are so many things in the Council report of such tremendous importance as representing the great policies of the Association, that I would like for the record to show that it was approved by a rising vote.

CHAIRMAN VANCE: If there is no discussion, all in favor please rise. Opposed. It is aproved by a unanimous vote.

New Business.

W. B. ATKINSON, Campbellsville: It has been suggested at various times in this meeting that we see the candidates for the coming legislature on certain subjects, and I want to move you that the Editor of the JOURNAL publish in the next issue, or before, the things that this House of Delegates has suggested that the doctors over the state shall contact their prospective legislators about at the next legislature.

SECRETARY MCCORMACK: I will write a letter instead of putting it in the JOURNAL.

DR. ATKINSON: There are some fifteen things and I only remember three of them myself.

. . . The motion was seconded. . .

CHAIRMAN VANCE: It has been moved and seconded that the Secretary communicate with the members of the Kentucky State Medical Association about the proposed legislation that we want. All in favor of that motion please say "aye," all opposed "no". Carried unanimously.

L. S. HAYES, Louisa: I have a report of a special committee. I wish to submit this report with regard to the optometrists. After the discussion the other night we decided it was better to go into that a little farther. We have broadened this report a little bit because we realized there were some irregularities in some of the other allied professions and even in our own profession, so we have made some recommendations along that line.

WHEREAS, Reports from various county societies and several individual members indicate the prevalence of infractions of the state laws and regulations by some members of the allied professions, particularly that of optometry, and some irregularities in the conduct of members of our own profession in their relations with other doctors and allied practitioners, and

WHEREAS, There is a general violation by the optometry profession of the oath and agreement made and entered into when application for certificate to practice is filed, with reference to the matter of advertising, and

WHEREAS, It would appear that, in most part, these conditions are due to misunderstanding of obligations imposed by the law and regulations, and, in our opinion, can be corrected, or at least ameliorated by the State Health Department in cooperation with the members of the various assistant examining boards.

THEREFORE, We recommend that the physicians of the state be diligent in reporting to the State Board of Health all violations or undesirable conditions that may exist in their respective communities, giving such evidence and facts as will furnish the basis for definite action.

(We regard that, gentlemen, as a very important thing if we wish to control the situation, that is to give our State Board the information. They don't know anything about it. Go to a little trouble to make it definite and we will get action.)

We further recommend that the State Board of Health be urged to rigidly enforce the existing laws and regulations, which we believe are ample to meet all the present undesirable practices and conditions that may exist.

We note that the optometrists of Louisville have, through the efforts of the State Board of Health, entered into a signed agreement not to advertise prices on glasses, and we recommend that this effort be carried farther and that a committee of three be appointed by the President to cooperate with the State Board of Health in presenting complaints to the State Association of Optometrists and the assistant examining board in optometry, and to urge this Association to adopt a policy in accordance with that of the State Medical Association forbidding advertising in any

form not approved by the State Health Department.

Signed:
L. S. HAYES
S. C. SMITH
F. T. LINTON.

CHAIRMAN VANCE: What shall we do with this report?

SECRETARY MCCORMACK: I move its adoption.

CHAIRMAN VANCE: Does that include the motion to appoint three members?

SECRETARY MCCORMACK: Yes, Sir.

. . . The motion was seconded and carried. . . .

SECRETARY MCCORMACK: Mr. Chairman, I would like to call the attention of the House to the difficulty in this connection. I think it is going to require an amendment to the law, and I think it will be a good thing, like nearly every evil and disaster I have ever heard of resulted in good if properly guided.

The difficulty in this respect is not from the relatively small number of really well qualified optometrists. The difficulty is from the jewelers who for years had this business in their hands and who have had its control and who have no professional attitude in regard to the matter at all, but purely a commercial attitude.

We are led to believe in recent decisions in California and Illinois that such a house as Will Sales, for example, or the Stewart Dry Goods Company, has no right to advertise that it is practicing optometry or any other form of the healing art. Our attorneys are investigating the matter just at present. If they find that is the case we will proceed from that viewpoint. If they don't, we will try to have the law amended so no corporation can practice any of the healing arts. If we do we will protect ourselves against a great many of the evils that have grown up out in the socialized section where corporations are actively engaged in the practice of medicine, and one or two are in Chicago. Whichever is the best thing to do about it we will try to work out with the Council before the legislature meets.

There is no great difficulty in going before the optometric association and getting them to agree to nearly anything. But the cattle that are doing this vicious stuff are not represented at the optometric association at all, they don't know it exists, they wouldn't let their men be members of it if they did know it existed. They are not thinking about any service to anybody; all in the world they are interested in is getting money. You can't appeal to them except on a money basis, and we can't do that.

We took one case into court, unfortunately, by a little pressure from our own friends; we acted hastily and hurriedly; we did not have adequate preparation. Judge Allen, one of the best men who has ever been on the bench in this state, ruled against us after he heard the case, and I think if I had been on the bench I would have done just what he did, although I knew how much wrong there was in it on the record that was presented in that particular case. The Courier-Journal took up the matter (they are interested in the advertising solely) and they succeeded in enjoining us from that provision in the law in regard to making announcements. We have let them go along, hoping that they would eventually say and do things that would be so outrageous that we could carry them up and get the Court of Appeals to reverse Judge Allen's decision in another case where we would have adequate evidence.

I am thoroughly in favor of going before them; of course I go to every meeting and give them the devil, and they are like nearly all sinners, when they are convicted of sin they come up and confess, and for the next two or three weeks they are good, but they are like the little boy was when his mother told him to blow his nose. He said, "I been blowin' the derned thing all day long and it won't stay blowed."

Mr. Blackerby has reformed them several hundred times, and he is optimistic about the hope that eventually they are going to stay that way, and so am I, but it looks like it is a good way off.

L. S. HAYES, Louisa: Our present state compensation laws deserve the consideration of this House. As I understand it, there are only about six other states in the whole Union that have such antiquated laws as the State of Kentucky. After discussing this question with a number of members of this Association and the House of Delegates, I fully made up my mind in accordance with those I have talked with, that we should take some action on the question.

I therefore move that the Public Relations Committee be instructed to check into this matter very carefully and to appear before the next state legislature and urge that legislature either to amend our present laws or abolish the present ones and enact new ones in accordance with the suggestions of our Public Relations Com-

mittee that will better protect and better meet the requirements of the medical profession.

The patient is cared for and there are certain large insurance companies that go on and pay a reasonable price to the doctor and are willing to do it. The railroad companies don't fuss any about it. If their surgeon goes in and takes care of a patient they pay him what he charges. But there are certain insurance companies that are simply grafting, and they are the ones that are responsible for holding these fees down.

Take a fracture of the spine. Two hundred dollars won't take care of that fracture of the spine adequately. I think the State of Kentucky should be brought in line with the more modern states along that line. I wish to submit that motion.

SECRETARY MCCORMACK: I second the motion. We have already passed the ones in Dr. Strickler's report, but I am willing to do it twice; it won't do any harm.

CHAIRMAN VANCE: Is there any discussion?

. . . The question was called for and the motion was carried. . .

The Secretary reported that the Scientific Assembly had unanimously recommended that Drs. Sumner L. Koch, Chicago, and E. C. Rosenow, Rochester, Minnesota, be elected to Honorary Life Membership. Upon motion regularly made, seconded, it was so ordered.

CHAIRMAN VANCE: The Council reports the following accounts, and I move that they be paid. Carried.

1935

Sept. 30—Voucher Check No. 1 $146.40
A. T. McCORMACK, M. D., Louisville
To September salary, Secretary 135.00
To expense 11.40
146.40
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 2 $90.00
L. H. SOUTH, M. D., Louisville
To September salary, Business Manager 90.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 3 $90.00
J. F. BLACKERBY, Louisville
To September services rendered Committee on Public Policy 90.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 4 $75.00
ELVA GRANT, Louisville
To September salary, Bookkeeper 75.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 5 $50.00
ELIZABETH CONKLING, Louisville
To September salary, Stenographer for Medico-Legal Committee 50.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 6 $87.41
CHARLES A. VANCE, M. D., Lexington
To expense as Councilor, 10th District 87.41
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 7 $53.00
HARRY S. SMITH, Louisville
To reporting and transcribing Minutes (abridged), discussions, etc. of the meeting of the Eye, Ear, Nose and Throat Section at Louisville, May 6-7, 1935 53.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30 Voucher Check No. 8 $50.00
P. WILLETT HAGAN, Louisville
To auditing accounts of Marshall McDowell, M. D., Treasurer, and A. T. McCormack M. D., Secretary, Kentucky State Medical Association, and Mrs. Edna R. Kreiger, Treasurer, and Mrs. William H. Emrich, Business Manager, Woman's Auxiliary, for the period September 1, 1934 through August 31, 1935 50.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 9 $4.32
JNO. W. KELLY, Louisville
To trip to Bowling Green, July 23-24, in connection with Supplement to September Journal 4.32
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 10 $6.65
OTHO HASKINS, Louisville
To expense incurred showing moving pictures before county medical societies 6.65
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 11 $50.00
JUDGE REX LOGAN, P. M., Bowling Green
To postage for Journal 50.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 12 $100.00
TYE, SILER, GILLIS & SILER, Attorneys, Williamsburg
To services rendered in case of C. S. Browning vs. Dr. F. S. Smith, Whitley Circuit Court 100.00
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 13 $17.38
LOUISVILLE POSTMASTER, Louisville
To postage for July and August 17.38
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 14 $16.00
KLEIN BROTHERS, Louisville
To 1 12-inch Emerson Oscl. Fan 25.00
Less 30 Per Cent 7.50
17.50
Allowance on old fan 1.50
Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 15 $10.30
TERRELL FLORAL COMPANY, Paducah
To spray for Dr. J. T. Reddick 10.00
Sales Tax 30
10.30

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 16 $3.79
RAILWAY EXPRESS AGENCY, Louisville
To express from Bowling Green, 7-9, 11 and 8-3-35 1.29
To express to Bowling Green, 7-17 and 8-14-35 1.68
To express from M. McDowell, Cynthiana, 7-18-35 40
To express to Mrs. S. A. Collum, Texarkana, Texas, 7-30-35 42
3.79

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 17 $25.00
SIMMONS STUDIO, Danville
To photographs for Supplement to September Journal 25.00

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 18 $37.13
COURIER-JOURNAL JOB PRINTING CO., Louisville
To 2550 inserts for September Journal—Picture of Dr. J. B. Lukins, Louisville 35.46
Sales Tax 1.07
Postage and Insurance 60
37.13

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 19 $1.75
THE STEWART DRY GOODS CO., Louisville
To 1 Frame 1.70
Sales Tax 05
1.75

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 20 $1.50
ELECTRIC BLUE PRINT & SUPPLY CO., Louisville
To 25 Blueprints of floor plan for meeting 1.50

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 21 $1.50
MEFFERT EQUIPMENT CO., Louisville
To 25 4x6 1-8 Cut Salmon Guides 25
To 1 Set 4x6 A-Z Celluloid Guides 1.00
To 2 pkgs. 103 RB Sheets 25
1.50

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 22 $4.95
E. H. ROEDERER, Louisville
To 15 White Badges, Gold Lettering, 4 3-4 inches long
To 25 White Badges, Gold Lettering, 6 inches long 4.80
Sales Tax 15
4.95

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 23 56.32
F. & V. MANUFACTURING CO., East Providence R. I.
To 400 Bangles for 1935@ 14c 56.00
Insured Mail 32
56.32

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 24 $6.75
SOUTHERN BELL TELEPHONE AND TELEGRAPH CO., Louisville
To long distance calls to Bowling Green, 7-29 and 8-20-35, for Journal 2.70
To long distance calls to Cynthiana, 7-29 and 31-35 and to Glasgow 8-25-35, for Association 4.05
6.75

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 25 $114.86
BUSH-KREBS CO., Louisville
To 15 cuts for Supplement to September Journal 78.44
Sales Tax 2.35
80.79

To 7 cuts for Journal 29.71
Sales Tax 90 30.61

To 1 cut for Journal 3.46
114.83

Approved by Council and Ordered Paid by House of Delegates.

Sept. 30—Voucher Check No. 26 $10.53
MAYME SULLIVAN, Louisville
To reimbursement for the following:
5-29—Long distance call to Dr. Kobert, Danville 80
6- 7—Telegram to Detroit Medical Society 66
6-13—Long distance call from Williamsburg about Madisonville program 1.15
6-13—Long distance call to Dr. Salmon, Madisonville 95
6-15—Long distance call to Dr. Hadley, Hodgenville 50
6-17—Long distance call to Dr. Hadley, Hodgenville 50
7-1—Telegram to American Medical Association 15
7-3—Long distance call to Dr. Howard, Glasgow 1.35
7-12—Bus fare to Dr. Horine office about program 25
7-22—Telegram from Chicago, Kentucky Medical Journal 47
7-23—Long distance call to Dr. Kobert, Danville 1.30
7-29—Telegram to New York, Kentucky Medical Journal 90
8- 1—Bus fare to Dr. Horine's office about program 25
8-12—Bus fare to and from Dr. Horine's office about program 50
9-14—Bus fare to and from Dr. Horine's office about program 50

Approved by Council and Ordered Paid by House of Delegates 10.53

Sept. 30—Voucher Check No. 27 $1,096.40
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green
To 2150—76 page August Issue 513.50
To Inserts Scored 8.50
To Envelopes 15.00
To Printing Envelopes 2.30
To setting tables in 6 pt 5.00
544.30
Less credit by Ck. No. 147, dated 7-31-35 400.00 144.30
To 2500—72 page September Issue 528.00
To Audit in 6 pt 45.00
To Inserts Scored 8.50
To Inserts 5.00
To Printing Envelopes 2.30
588.80
Less credit by Ck. No. 153, dated 8-31-35 450.00 138.80
To 2150—72 page October Issue 486.00
To Envelopes 15.00
To Printing Envelopes 2.30 503.30
To 3000 Supplements to September Journal—Jane Todd Crawford Memorial 310.00
Approved by Council and Ordered Paid by House of Delegates.
Sept. 30—Voucher Check No. 28 $82.50
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green
To 500 Letterheads and 500 envelopes, Dr. C. A. Vance, Councilor, 10th District 5.00
To 750 Programs for Annual Meeting 77.50
Approved by Council and Ordered Paid by House of Delegates.

CHAIRMAN VANCE: Is there any further business to come before this meeting? If not, a motion to adjourn is in order.

. . . Upon motion regularly made, seconded, and carried the meeting adjourned sine die at 9:25 a.m. . . .

ARTHUR T. MCCORMACK, Secretary

PRESIDENT'S ADDRESS
THE SPIRIT OF MEDICINE*

J. B. LUKINS, M. D.
Louisville.

The spirit and the progress of medicine have been indelibly linked with the story of man's rise from barbarism through the ages to the heights of civilization.

The spirit that prompted Hippocrates in the early ages in the launching of this great science is the same spirit that drives our profession today and enables us to carry on in the laboratory, in the operating room, and at the bedside.

If I were asked to define, in one word, the spirit of medicine, my answer would unhesitatingly be: SERVICE.

From the very beginning of man's habitation of the earth, human sickness and suffering have challenged the thought of mankind. In each succeeding age since the dawn of recorded history, there have been a few who sought to serve their fellow men, by discovering causes of human ailments and the means for alleviation of human pain. This urge to serve has been constant and cumulative through the centuries. Fostered and energized by the inspiration of the masters, it has steadily increased and developed with the progress of medicine. The spirit of service, even in this age of commercialism, is still the dominant, driving force of the profession—its very soul. Because of it, research is being pressed in ever new and newer fields, with consequent benefits to mankind which would have appeared miraculous a half or even a quarter of a century ago. Because of it, practitioners, from the most eminent specialists to the humblest country doctors, are seeking to give, in their practice, the broadest possible application to the latest scientific discoveries, as they relate to medicine. This same spirit of service must be continued, on an ever widening scale, by all branches of the profession, if medicine is to remain true to its ideals and make the most of its constantly enlarging opportunities to lessen human suffering and prolong the span and usefulness of human life.

Of the earlier pioneers in the field of healing there is little or no record. Through the Stone, Iron and Bronze Ages and for long thereafter, disease and death were generally regarded as visitations from wrathful spirits or supernatural agents, to be averted or overcome only by magic formulae or mystic processes. So, in the earliest times the priests and the prophets were the medical men.

Modern civilization owes many debts to ancient Greece. Not the least of these is that due for having first conceived the idea of a sane and constructive effort to classify and remedy human ills. Even in ancient Greece the concept of medicine had its origin in religion. Apollo, the God of Healing, is reputed to have had a son by the mortal maid Coronis. This son, Aesculapius, was, in turn, regarded as a God-Physician, and from his influence emerged the ideal which subsequently assumed concrete form under the teachings of Hippocrates, who has been rightly termed the "Father of Medicine." Hippocrates, who lived in the fifth century B. C., was the first to apply science to the determination of the causes of disease, and

*Read before the Kentucky State Medical Association, Louisville, October 1, 2, 3, 1935.

it was through him that medical thought and knowledge received their first great impetus. It is not necessary to enumerate to this audience the accomplishments of his great mind. They are too well and generally known to need repetition here. Suffice it to say that he was the first to group and coordinate symptoms by bedside study; that his physical examinations were altogether worthy of the modern clinician; that his therapy was directed to assisting, not overruling, nature; that he opposed, with all his brilliant genius, the superstitious idea that diseases were wrathful visitations of demoniac character; and that the standard of professional ethics which he set in the Hippocratean oath remains a model to this day.

In the following century came Aristotle, botanist, anatomist and physiologist, who gave us the first study of comparative anatomy by dissection.

Three hundred years later was born the great Galen, whose work created so much discussion and diversity of opinion. Suffice it to say, however, that his inquiring mind, depth of knowledge and versatility made him a close rival of Hippocrates for ancient honors. His contributions to neurology, physiology, anatomy, pathology and therapeutics were little short of marvelous for his day and generation. For thirteen centuries after his death medical knowledge languished.

During the Medieval period no master mind in the field of medicine appeared. Ignorant barber surgeons and crude mountebanks held the stage. In an effort to protect the public against their ignorance and quackery, medical jurisprudence was first invoked in the thirteenth century. The earliest law demanding license by examination was established by Frederick II in 1224. Under this law, "the candidate must have studied logic for three years, medicine and surgery for five, and have practiced under some experienced physician for one year."

With the Renaissance came also a relighting of the fires which had flamed so vividly in Hippocrates and Galen. From that time on, the progress of scientific medicine has been steady and uninterrupted. The seventeenth century brought Harvey, who first demonstrated the circulation of blood in the human system. The same century also saw the first conferring of the title of "M. D.", to distinguish the graduate of a medical school from the charlatan, mountebank or midwife. In the eighteenth century came John Hunter and Jenner, together with a long list of renowned English and American doctors, with whose fame we are all proudly familiar.

Among modern scientific luminaries may be mentioned, without invidious comparison, such names as Pasteur, who laid the foundation and established the science of bacteriology; Lister, who brought to humanity the inestimable boon of antisepsis and asepsis; Robert Koch, the discoverer of the tubercle germ; our own beloved McDowell, the Father of Abdominal Surgery, and others too numerous to enumerate.

With such a splendid heritage of past achievement, and with such golden hopes for its future, it is deplorable that there are questions, many of grave import, which distract and imperil the medical profession at this time. Not the least of these is the economic problem. There is no class of men, no calling, no profession, that without thought or hope of reward, gives so lavishly of its time and strength as the medical profession.

Then, as now, the profession was slow to accept the findings of explorers in new fields in medicine. That was not unnatural, nor is it to be altogether deplored. Scientific progress, if it is to be worthwhile and permanent, must be sure. Even today research scientists are conservative, probably, in many instances, ultra conservative. They take nothing for granted, accept nothing as true until and unless conclusively demonstrated. We have just had ample proof of this in Kentucky in the recent epidemic of poliomyelitis. No vaccine, preventive or curative, has been unreservedly and universally accepted by our profession.

It is a significant fact, and one which cannot be emphasized too strongly, that, practically without exception, the men who have blazed the way for medical progress have profited little, if any, in a pecuniary way, from the results of their labors. In but few instances, so far as we can ascertain, has there been any attempt to commercialize the discoveries. No effort has been made, no desire has been expressed, to copywright, to patent, or to do anything else which would tend to circumscribe the consequent benefits, actual and potential, to mankind. Their sole desire has been to serve; consciousness of service rendered has been their sole reward. I think I am within the mark in saying that this is not true, in equal measure, of any other profession practiced by man, save and except only that of the ministry.

And this applies not alone to the comparatively few research workers whose labors have been of universal and inestimable value. It applies also to the profession as a whole.

If this were not so, the spirit of medicine would be, indeed, a poor thing. The physicians whose scientific discoveries or professional attainments have appreciably contri-

buted to the trend of medical thought and medical progress constitute only a small fraction of the whole profession—not more than one in ten thousand. The general practitioners make up the great bulk of those in medical practice. It is they who are constantly, in their everyday practice, best exemplifying the true spirit of service. The doctor who goes about ministering to the sick and ailing, without regard to his patient's station in life or economic status, is, in his humble way, rendering service just as important, just as real and just as worthy of recognition as is the eminent specialist who performs a life-saving operation or the distinguished scientist who discovers a hidden pathology. His station may be lowly, his life may not be acclaimed, and his reward may be meager, but of such, in city, town and county, are the vast majority of the followers of the Great Physician. The real measure of success in medicine lies in the quality and quantity of service rendered, not in the pecuniary rewards reaped or in the professional fame acquired.

May I be permitted to say here that there is no proper place in medicine for professional jealousy. Such jealousy is ignoble, unworthy of and injurious to those harboring it, and tends to bring the profession into disrepute. The true spirit of medicine admits of no castles. There should be no looking up to or down upon in the society of service. The ideals of medicine, in all its various branches, are on one plane, clear to the vision of all, and easy to be practiced by any who are properly and adequately equipped for the work.

The making of a physician in this day is a colossal task. From eight to ten years of didactic and practical training are required to qualify a young man or woman for the practice of medicine. Several thousand dollars must be expended in financing courses of study. Reputable medical schools have come to recognize such a system with increasing rigidity. The standards of both premedical and medical education are being constantly raised. Intelligent effort is being directed to securing for the medical schools only young men and women of adequate mental endowment and natural aptitude for the profession. This is altogether as it should be. It must be borne in mind, however, that something more than natural endowments, premedical education and professional training are necessary for the making of a real physician. The spirit of service, a love of humanity, a character able to withstand both temptation and criticism, are all essentials of the true physician. All true sons of the Father of Medicine must have, in entering the profession, an incentive not to be measured in money or in power.

Apprehension has been voiced in some quarters that the medical schools are turning out too many doctors. This apprehension, as I see it, is wholly groundless. The trouble is not that we are getting too many doctors, but that the doctors we do get are not being properly distributed. Certainly this is true of Kentucky, as conclusively shown by a survey made some few years ago. The larger cities are gradually acquiring a surplus, while the smaller towns and rural communities are suffering a constantly increasing scarcity. The explanation is not hard to find. The material facts of life have to be faced by doctors as well as by other elements of the citizenship. No matter how high their ideals, how urgent their desire to serve, they must live. With the development of highly trained specialists, who naturally locate in the large urban centers, and with improvement in means of travel and transportation, practitioners in small towns and rural districts are finding their practices becoming less and less remunerative. By the same analogy, graduates from the medical schools are naturally balking at settling in territories where chances of making a living are hazardous at best. The great majority of them have practically exhausted their available resources in fitting themselves for the practice of medicine. Consequently, they are in no position to finance themselves during the comparatively long periods required to build up in small towns and rural districts practices sufficient to sustain them, assuming that such practices are to be had.

This is a situation which is increasingly demanding careful consideration and intelligent action by the profession. People in the rural communities need and should have medical attention equal to that obtainable in the large urban centers. The ills to which humanity is heir are common alike to those who dwell in the country and to those who reside in the city, to the rich and to the poor. Some provision must be made for providing this equality in a measurable degree at least, if the medical profession is to continue to meet the obligations devolving upon it.

Just how this is to be done, I do not venture to say. To me, however, it appears that the profession could largely contribute to solution of the problem by making the most of its oportunities to substitute preventive for curative medicine. Recent surveys have shown that in the United States approximately three million, five hundred thousand people are constantly sick with incapacitating disease.

It is with this small fraction of the people that the medical profession is largely occupied. That is, the hundred and sixty-one thousand doctors in the United States are mainly devoting their attention to less than two per cent of the population. Of course, the sick have to be cared for and should be cared for. But, consider, if you please, what the situation would be, if people once acquired the general habit of going to the physician to be kept well, instead of to be cured after they got sick. The clientele would be increased six thousand per cent. There would be no further talk of too many doctors. On the contrary, the problem would be to get enough doctors to supply the demand.

Of course a consummation so devoutly to be wished could not be effected all at once, or even in a comparatively short time. The process would require years upon years devoted to application of the preventive methods and measures which we now have and those which may be reasonably expected to materialize in the future.

Approximately one-third of all the sickness and deaths in the United States is preventable. Thanks to the combined contributions of preventive medicine and sanitary science, we now have knowledge sufficient, if properly and universally applied, to reduce by one-third our morbidity and mortality rates. The trouble is that this knowledge is now neither generally diffused among the various elements that go to make up our citizenship, nor generally applied by the medical profession. If it were, diseases which we now know how to prevent, and so should prevent, would not have caused last year ten thousand deaths in Kentucky alone. If it were, infant mortality in this state would not have exacted a toll of approximately four thousand children under one year of age during the same period. If it were, tuberculosis would not continue to be responsible for more deaths in the active period of life than any other single disease. If it were, diphtheria in this Commonwealth would be conspicuous chiefly by its absence. The same is true, in varying degrees, of scarlet fever and other communicable diseases.

What this saving would mean to Kentucky, from an economic standpoint alone, is not difficult to calculate with something at least approaching accuracy. A fifty per cent reduction in financial loss from preventable sickness and death would, it is estimated, in itself mean an economic saving of thirty-three million five hundred thousand dollars a year. A like decrease in morbidity would mean the annual saving of another thirty-three million five hundred thousand dollars. The two together would mean a saving of sixty-seven million dollars annually—a sum greater than that we are spending in the operation of the State government in all its various branches. And this does not tell the whole tale. The figures given do not include partial disabilities which, while not incapacitating, impair productivity, to a greater or less degree. When to all this is added the needless suffering, anxiety and disturbance of human relations entailed by unnecessary sickness and death, the bill which we are called upon to pay for failure or neglect adequately to practice preventive medicine becomes almost staggering.

It is interesting and should be illuminating to observe that Kentucky, excluding cities of first and second classes, is today spending an average of only thirty-one cents per capita for protection and promotion of the public health—that is, for preventive medicine. The thirty-nine cents per capita includes funds from all sources, inside and outside the state—funds contributed by the state government, by the various counties, by the Federal government, through the United States Public Health Service, and by private organizations, such as the Rockefeller Foundation and the Commonwealth Fund. At the same time, Kentucky is spending annually four dollars and fifty-nine cents per capita for patent medicines alone. Such a situation should carry its own commentary.

Medicine is the Mother of Science, for it is out of medicine, or in connection with it, that most of the sciences have grown. In many ways, scientific medicine has been the very cornerstone of our civilization. In the last half century, general scientific advancement has been greater than in any previous century or two centuries in the history of the world. In this period, the achievements of medical science have not been surpassed, if equalled, by those in any other field of human endeavor. And these accomplishments are but an earnest proof of the constantly increasing progress which medical science may be reasonably expected to make in the future. The present problem is so to apply these advances to the control of disease and consequent protection of the public health as to insure maximum benefits to mankind.

It is to the medical profession that the world owes the wonderful strides already made in arresting the ravages of many of the ills to which mankind is heir. It is to the initiative of this profession that preventive medicine owes its origin and development. It is to this profession that the world must look for still greater and constantly aug-

menting achievement in the years to come. Not all of us are so situated or endowed that we can do the research work which lies at the foundation of medical progress. But all of us can play and should play an essential part in giving flower and fruit to the results of this basic labor. We can and should practice, as far as practicable, the principles and procedure of preventive medicine. Without practice, principles and procedures can avail nothing. And we can and should impress upon our respective clienteles the importance of themselves practicing such principles and procedures. In doing this, we shall each be playing a part no less essential and no less valuable than that performed by the special laborer in the laboratory or other experimental field. Moreover, we shall be performing a service not the less worth-while from an economic than from a humanitarian standpoint. It means more to the prosperity of a people to keep them well than it does to make them well after they have become sick. It will also mean more to us in dollars and cents. Preventive medicine calls for much more extensive service than does curative medicine. In the one case, the clientele includes the whole population; in the other, it embraces only the sick, or about one-fiftieth of the whole. And equally important, a people kept well have a correspondingly increased capacity for productivity, and so, more money with which to pay for the services of those who keep them well.

Preventive medicine, though in comparative infancy, and practiced as yet on a relatively small scale, has already doubled the average of human life in the United States. This increase, however, has been made almost altogether in the lower age brackets—through better care of the mother during the prenatal period and of the child during infancy; through immunization of children against smallpox, diphtheria and scarlet fever, during the pre-school and school periods, and through the better control of other diseases peculiar to childhood and early adulthood. It is in these fields that preventive medicine can and does show best results. While the progress made is distinctly encouraging, it is only a tithe of what should be done in these fields, and what could be done if we physicians would do our full duty in urging the importance of proper prenatal and postnatal care, the value of early immunization against all communicable diseases for which there are approved immunizing agents and of controlling others, as far as the means at our command will permit—and the need of going to the family physician for thorough physical examination at frequent and regular intervals.

Little or no gain, however, has been made in the upper age brackets, particularly in those above forty-five. It is in this period of life that the degenerative diseases exact their toll, unless detected early enough to admit of being arrested, if not cured. With the exception of acute infections, patients rarely consult their doctors for diseases of this character until after they have passed the initial stage and inflicted injury to this or that organ. Not infrequently this injury is so serious that the body can never recover from the damage. And yet, with the equipment now available, practically all of such diseases are detectable in their early stages. All of them give some indications of their existence before the characteristic symptoms declare themselves. Diseases of the heart develop slowly and insiduously. An attack of angina pectoris or apoplexy does not come out of a clear sky. The patient has been diseased for months or even years before. Tuberculosis is well established long before it causes cough or loss of weight. Cancer has ordinarily been developing for several months before any pain is recognized by the patient. And so it is all down the line.

The solution of this problem lies largely in education of the public in matters pertaining to health. The people as a whole must be taught the elemental facts in connection with diseases and the methods and procedures necessary for their control and prevention. In the case of disease other than that which is communicable, the responsibility is largely personal. There is little which governmental health agencies or the medical profession can do other than to educate and to advise. There is no authority anywhere to compel an individual to protect and promote his or her own health except insofar as such protection and promotion, as in the case of communicable disease, are essential to the safety of immediate neighbors of the community. We can, however, and should impress upon the public the importance of recognizing and discharging their obligation to themselves, to their families and to the community to keep themselves in as good physical condition as is possible under the varying circumstances in which they are severally situated. We can and should urge that they seek competent medical advice upon the first appearance of any abnormal bodily condition. We can and should stress the value of periodic and thorough physical examinations. This is just as real preventive medicine as is immunization against communicable disease, prenatal care of expectant mothers, proper feeding of infants, sanitation of

homes and communities or proper protection of food and water supplies. The difference is only one of degree, not of kind.

This educational job is, of course, one not resting upon the medical profession alone. On the contrary, it is one in which every element of the citizenship has a direct and vital interest, and so calls for active cooperation on the part of every group and every individual at all qualified to assist in its performance. There must, however, be leadership, and this leadership naturally devolves upon the medical profession. Physicians alone have the necessary knowledge. They also have opportunities such as no other group possesses. They have contacts whose closeness and intimacy the members of no other profession, with the single exception of the clergy, can hope to have. Particularly is this true of the family physician—the general practitioner—who, after all, is the mainstay of the profession. He is something more than a doctor. He is a family friend. In not a few instances, he is little short of a father confessor. Having the confidence of his clientele, he has the opportunities for educating them as to how and why they should protect their health which he can turn to the inestimable advantage of his patients, of his community, of the State and of himself.

The professional quality of medicine finds its finest example in the family physician. The intimate relation existing between such a physician and his patient, more than any other one thing, gives to the profession the character which has earned it the homage of mankind. Now, this relationship is threatened by a trend toward panel or State medicine. The movement, in my judgment, is pregnant with more potential damage to the profession and to the public than any other movement, evolutionary or revolutionary, in the long history of medicine. If successful in its entirety, the results would be nothing short of calamitous. The spark of determined ambition to serve by excelling, which has motivated all the great leaders and masters, would be dimmed, if not totally destroyed. All the humanitarian instincts now characteristic of the profession would be stunted and stifled. The spirit of service continuously characteristic of medicine from its very origin would give way to the spirit of commercialism. The ultimate result would inevitably be the lowering of the profession to the level of those standards obtaining among tradesmen and laborers.

I am confident that the most, if not all of you, see with me eye to eye in this matter. No permanent gain, however, is ever obtained by blinking facts. And the facts in this case are not to be successfully evaded. They are so plain that he who runs may read. State or panel medicine, in some form or another, is coming. It is one of the inevitable outcomes of the evolutionary and revolutionary changes now taking place in the social and economic conditions of the world. The paths of wisdom and self-interest combine to demand that we recognize this fact and prepare ourselves to meet it. The real question to be determined is not whether the change is coming, but who is going to direct and guide its course. Is the medical profession, which is alone competent to assume this leadership, going to recognize and discharge its obligation to itself and to the public, while there is still time to exert a controlling influence, or is it going to sit idly by and permit the change to be made by those who know nothing of the real ideals and aims of the profession? Upon the answer to this question depends, in a way and in a large measure, the future of medicine.

The medical profession must realize, increasingly, that it touches every human relationship and that it must accommodate itself to the social and economic changes taking place throughout the world. This accommodation may be made either in such way as will destroy the true spirit of the profession or in such manner as will preserve, without material damage, the ideals which have guided it from its inception. The latter is altogether possible and practicable, if done under the leadership of the profession itself; the former is inevitable, if leadership is to be left to those outside the profession.

There is no cause for pessimism as to the future of medicine; there is occasion for grave concern. If the profession is to continue to serve mankind in the spirit which actuated the early founders and which has been the driving force throughout its whole existence, it must recognize that it cannot remain static, while everything else around it is changing. The constantly accelerating trend toward a new order of things offers new opportunities to medicine as well as to every human profession and vocation. Not only must we promote development of preventive processes, as against curative, but we must also realize that the prevention of disease and the cure of human ill, both within the limits of the possible and the practicable, are no longer to be considered as the whole of our job. In this complex world of today the medical profession cannot live apart and unto itself. It must become integrated with the general scheme of modern life. It must ally itself with all the forces directed to promoting happiness and stimu-

lating physical and moral protection in men and women. To keep fully alive the true spirit of medicine, the profession must concern itself not alone with saving and prolonging human life, but with making the life saved and prolonged the more worth the living—with promoting those cultural values which are the real though invisible and intangible, expressions of health in man—wisdom, beauty, duty, and justice.

ORATION IN SURGERY
A PLEA FOR MORE CONSERVATISM IN SURGERY*

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Ashland.

The wording of this title was chosen because it seems to have a broader meaning than one which first suggested itself: namely: "A Plea For More Conservative Surgery." It seems timely and should be of interest to those who practice and love the science and art of relieving suffering and restoring health in this manner.

For many centuries this method of healing has been practiced, beginning as civilization did in a primitive way and progressing slowly for hundreds of years. At first the death rate must have been appallingly high and suffering horrible since anaesthetics were unknown and antiseptics undreamed of. Aseptic surgery began with Lister and Pasteur and since their discoveries progress has been more rapid.

In the memory of the elderly among us the days of "laudable pus" following operation is still fresh and the practice of postponing operations until the patient was in extremis was the usual procedure. Patients usually went to a hospital in those days with the shadow of death before their eyes. This caused hospitals to be considered in the minds of many as houses of horror. It is unfortunate that the pendulum has swung considerably in the opposite direction, particularly with some of our ambitious surgeons whose knife is always sharp and whose conscience is frequently if not always dull. As a result many needless operations are performed, some of which are mutilating and thereby reduce the population, and in many instances leave the victim with far more troublesome symptoms than existed before the operation.

Another phase of the present tendency in surgery which it seems might well be mentioned here is the attitude of the majority of recent graduates which have come under our observation. Most states now require a year or more of internship before a license to practice medicine is issued. These interns in their routine assignments are given some weeks in the surgical service where they act as one of the assistants, and occasionally, if they win the favor of the staff man under whom they are serving, they may be permitted to perform an operation as principal. These experiences give them confidence and attracted by the larger fees that are usually received by the surgeon they open an office and start "doing surgery." They are neither equipped by training nor maturity of judgment for the task they set out to do and as a result many casualties are found along the line of their early endeavors.

We, in this country, have been too slow in recognizing the need of a system of licensing surgeons as well as others who engage in special forms of practice. Europe long ago adopted such a system. Until the profession in America recognizes and adopts such a system, incompetents in the field of surgery and every other field of medicine will be doing things that only one with special training should attempt. The public does not know the qualifications of a surgeon or a doctor and if they like one personally will trust themselves in the hands of a novice for serious operative procedures. These untrained men frequently call an experienced surgeon to assist them and are able through his skill and judgment to establish a reputation to which they are not entitled. Trained surgeons, in our opinion, should refuse to assist untrained men and hospitals should have regulations which prevent novices from attempting such operations. Such regulations are usually found in larger centers but are sorely lacking in smaller communities.

The requirements for a Fellowship in the American College of Surgeons demand among other things a full report on one hundred major operations which must have been performed, if my memory serves me correctly, within twelve months just preceding the application. Where competition is keen this is a difficult task for the younger man. It would be amusing, were it not that human health and life were involved, to see these hopefuls hustle to get this one hundred operations ready to report. It would be interesting to observe the operations and then to compare the actual findings to the pathological reports that are submitted to the College of Surgeons. We cannot avoid the opinion that the necessity for getting the one hundred cases to report causes some operations to be advised and performed that would not be done were it not for the necessity.

Granting that the pendulum has swung in

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many instances toward radicalism, what steps should be taken to restore surgery to a sane conservatism. I venture the following suggestions:

First: Laws or regulations drafted by the Kentucky Medical Association or its agents to compel surgeons as well as all other specialists to meet a minimum standard of special training after which they are examined by a special board and licensed if they pass the required standard. No others to be allowed to offer their services to the public as specialists in any branch of the healing art.

Second: Hospital regulations to prevent any one except a licensed surgeon from performing any operation in the hospitals unless it be minor. Hospitals with closed staffs frequently have such regulations, but not all do.

Third: Personal honesty. This phase is not possible of regulation but any man who offers himself to the public as a surgeon should adhere to some simple rules of honesty which would make unnecessary surgery a matter of error in judgment and not from any ulterior motive. These, it seems, should be as follows:

1. Before advising an operation it goes without saying that a careful physical examination and as accurate a diagnosis as possible should be made. After the diagnosis, of course, comes the question of appropriate treatment. If it is a surgical condition one should apply a test something like this: Will it benefit the patient? Would I have an operation performed if I were the patient and could look at it as I do now? Would I advise my mother, sister, wife or child or any near relative or friend to have the operation performed? The primary object of surgery is to save or prolong life and restore health and comfort and if it fails in these, it is useless.

After deciding that surgery will, in our judgment, accomplish some or all the things hoped for then we can operate with a clear conscience. While operating we must bear in mind that no tissue must be sacrificed that is useful and that we should, after removing diseased and useless tissue, endeavor to restore the remaining structures to as near their normal physiological relationship as our skill will permit.

Nature is a great restorer and it is surprising what it will do in surgical conditions if given a chance. We must recognize surgical emergencies and meet them promptly with appropriate operative treatment but we must also recognize the fact that appropriate rest and palliative treatment will aid nature in restoring some structures to normal that seem to demand surgery. The most skilled in our ranks are nothing more than students sitting in the amphitheater of honest endeavor and learning from the Master Surgeon of us all.

Ours is a noble calling and in most instances its ranks are filled with noble men. It is for the preservation of the high ideals, courage and fortitude of the most noble in our ranks that this plea is made. Posterity will need it and it seems to me that it is the mission of those of us who have been in harness for many years to take steps to see that the colts are properly broken and that outlaws are eliminated in order to maintain the ideals of surgery for those who come after us.

ORATION IN MEDICINE

JUST AMONG OURSELVES*

JAMES H. PRITCHETT, M. D.

Louisville

Mr. President, Members of the Kentucky State Medical Association: I deeply appreciate the honor; Orator in Medicine, and I sincerely hope that I shall bring no discredit to those good men who have preceded me in this capacity. As Chairman of the Program Committee in 1934, I received many letters relative to subject material for essays and topics for discussion. Many requests came in asking for consideration of certain problems, practices and worries of the medical profession. I believe a quiet talk about ourselves, among ourselves, will be of interest and perhaps of profit. So relax, loosen up the old belt to lessen the gastric growling and we will soon be cut for lunch.

The story and history of medicine is one of amazing interest; conceived in ignorance, born in mysticism and reared in magic, early medicine had little of science and art. Haggard (Mystery, Magic and Medicine) reminds us that scientific medicine originated among the early Greeks, it was among them that the first complete separation of medicine and superstition took place. They removed the mystery from medicine and made it a practice, not of magic, not of religion, but of common sense, of observation and logical deduction. Hippocrates, father of medicine, was the greatest single factor in the stimulus of early medicine. Perhaps much of the dignity, honor, high ideals and ethics that mark the medical profession, is but the reflection of the great men of long ago. It is chiefly on the work of Harvey, Hunter and Lister that the art and

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science of modern medicine has been founded.

Great geniuses, leaders and pathfinders are few and far between. They cannot be manufactured by pedagogic methods either ancient or modern, they are the product of no system of education, they are born great and remain so. And their light and luster illuminate the field by revealing hidden facts and by uncovering what has seemed impenetrable. It falls to lesser mortals to give such aid and encouragement as they can. (Abt.)

I resent the carping criticism of guttersnipes and alley rats, who would have us believe that modern medicine is in decadence and that most physicians are failures. The first postulate is so flagrantly false as to need no comment. As to the second, we admit a physician may be a failure, but that is because he is a man, not because he is a physician. A man or woman may be a misfit in any profession or vocation; the same would be a failure as a ditch digger. It is an easy matter to stand on the side lines and cast slurs and reflections without a scintilla of proof. The Master, on one occasion said to His apostles who would have stoned a poor woman: "He that is without sin among you, let him cast the first stone." We are not alarmed by the whispering Willies, merely annoyed. From the dawn of medicine to this good day, our profession has been imposed on. We take it on the chin and, whether we like it or not, we come back for more.

The profession as a whole and the physician as an individual have not received their just dues financially. One of the most important and pressing problems confronting the profession just now is the question of economics. Greater minds than mine and mightier pens than mine must find the solution to this, our most urgent problem. We are standing on the threshold of an uncertain future, we know not what lies ahead —we are as soldiers in the trenches awaiting zero hour. When the barrage is lifted, we must press forward. There must be absolute cooperation and unity of purpose in effort. I regret to say that one of our failings has always been the lack of solidarity. Too long we have been divided. United, we stand.

Slowly, but surely the government is assuming the work of the practicing physician. It is a deplorable fact, nevertheless true, that the layman, social worker, politician, department store owner, would-be reformer, economist, socialist and ad infinitum, are trying to change the present medical care so that it will conform to their ideas. And yet, these same persons would wail and gnash their teeth were a move proposed to regulate their businesses.

If I were to select quite at random, twenty physicians from this audience, and ask the pointed question: why did you choose medicine as a profession? Your answer would not come at once, and if, before you could reply, I were to ask, was it because of the money you hoped to make? At once, and in unison, comes the answer, no! Who knows better than the physician himself that the practice of medicine is a calling to service, not emolument, of sacrifice and self denial. Listen, the poet speaks:

"The curfew tolls the knell of parting day;
The herd winds slowly o'er the lea,
The plowman homeward trods his weary way,
And leaves the world to darkness and to me."

The great Gray, had he known the doctor better, might have written:

Whether the night be cold or hot the day;
From home plods the weary doctor his way,
The world cares little and has less to say.

The doctor is not merely a physician, he is more than that, the art of healing is only one part of the great art of living, and the doctor must know the greater if he is to understand the lesser. Voltaire once said: "The physician requires a grasp of all the dexterity and intricacies of all other professional classes." You realize only too well the truth of this statement. His activities run the gamut from the accordion to the zither. The physician becomes at once, in part, a clergyman or priest who officiates at the beginning and at the end of life. He is a counsellor and adviser, in his heart he holds many secrets. He is a teacher and an educator, he is an inventor in many ways; at the same time, he is a business man, albeit usually a poor one; an ambassador, he is welcome in all corridors and all homes; a sage, he is wise in the ways of man, he adapts himself to any and all conditions. Rich or poor, black or white, he speaks the language of all. In short:

"He is the best loved man in any town, is
honest, manly, brave and true;
Sharing his life with all who live,
Doing what work he finds to do.
He may not climb the heights of fame,
Nor come to treasure's golden fee,
But he is still accounted great in all,
God asked the man to be."

(Guest)

Medicine has advanced amazingly, and the doctor does more for his patients than in the old days, yet the prestige of the physician and the proper regard for medicine have not increased correspondingly, indeed, they seem to have declined. As proof of this, one notes the rapid rise of charlatans, cults, fad-

dists and quackery. The passing of the old family doctor has been deplored. I think, and, I say it with no disrespect, that his passing has been a benefit both to the profession and to the patient. In his stead there has arisen a new family doctor, far better trained and educated, certainly more scientific and business like and, if he will be as kind and sympathetic as his departed brother, he will continue to be the chief cornerstone in the structure of modern medicine. I am absolutely convinced that he is the most important factor just now in the preservation and elevation of the profession. No one can take his place, the various specialties must depend more and more on him, and certainly the public will need him, for in this day of depression, strain and stress, he will supply a steadying influence for physical and mental balance. Too long have we hidden our talents under a bushel, not as individuals but as a profession. We have been so busy in the practice of our art day by day, both in the office and sick room, that we have failed to notice that other professions have legitimately advertised and put themselves before the public, stating their position in society. Long has ethics prevented us as individuals from this sort of thing, and, while I am still opposed to such for the individual physician, yet collectively or as a profession, I am strongly convinced that some expression should be given publicity.

In the Wichita Sunday Beacon, April 21, 1935, Kansas' largest newspaper, there appeared a fourteen page special supplement dedicated to the medical profession of the Sedgwick County Medical Society. On the first page there appears a tribute to the regular family doctor, which I quote:

"When the debt to society is paid to those who serve humanity, there will be listed high on civilization's honor roll, the physician, who ministers to our ills of body and of mind. And to the physician will be given the honor that is his due. He will be paid, finally, in the gratitude of his fellowmen, which has been withheld from him in the generous measure that he deserves.

"For the men and women of medicine and surgery have dedicated their lives to a science that only is mastered by those who are true of heart and souls and mind. They labor long without thought of self. They relieve our suffering. When the fluttering of the wings of the angel of death is heard near by, they are on hand, to drive away, with scientific skill, the grim and uninvited guest. When new beings come to the earth, the physician welcomes them. When adolescence is at hand, when maturity is reached, the physician stands on guard, to protect from the danger that lurks in a busy, complex world. And when the last hours have arrived, the physician makes easier the passing from this world by giving comfort to the bereaved. Let us honor our physicians NOW, for they merit the appreciation of their fellows for the good that they have done."

Throughout the pages of the supplement, as one reads, he gains a better insight and knowledge of the medical profession. He learns the importance of periodic health examinations, of prenatal care, and, the necessity of immunization against preventable diseases, is stressed. The layman is warned against the socialization of medicine; finally, most important and legitimate question is brought up—the payment of medical bills. The primrose path is not for the doctor, but the laborer is worthy of his hire, and the physician should receive full remuneration, but, does he? Alas, poor Yorick.

A concerted effort by the individual doctor, rather than a group of individuals composing a committee, is the best means of increasing one's income, for, as someone has said, "A committee is something that takes a week to do what any first rate man could accomplish in a couple of hours." I am not so sure about the above statement. In our own County Society the Credit Rating Bureau is doing fine work and the individual doctor certainly will profit thereby. Such a movement must have one-hundred per cent cooperation of the medical profession, else it will fall short of its fullest accomplishment. We are not asking for sympathy, nor are we seeking praise and glory. Glory will not pay the office rent, it will not put gas in the old bus, a dozen letters of kindly praise, sweet and sacred as they may be, have not the purchasing power of a pack of Camels. Said a friend of mine some time ago: "I received today a letter from a grateful patient, it was full of praise and thanks; my heart felt strongly warmed, but the old pump fairly pounded, when, at the close, the good woman wrote—and doctor, my husband will be in tomorrow to pay the $45.00 we owe you."

No doubt the old time family doctor could and did live on praise and sweet potatoes. My grandfather was a physician of the old school—graduated when quite a young fellow from the University of Edinburg, Scotland, and as a reward for scholarship, was sent to New York City for hospital work. The Civil War soon came on and, so loudly did he espouse the Southern cause that he was advised to go South. He did so, locating in St. Louis. Long hours of military hospital work brought on ill health, so he forsook this work and settled in the wide open spaces of Missouri. There he practiced, and thrifty

Scot that he was, he usually got value received for his services. On one occasion he came home with the fatted calf on the back of his horse and, as my grandmother once remarked—"The good doctor would bring home anything not nailed down." But Tempora mutantur.

Unfortunately, the present day doctor must be a leader in his community, and, as such, must live the part.This can only be done by an income sufficient, at least, to take care of his most urgent needs. It is indeed a deplorable fact that the present day incomes are far less than they should be, and, we must be up and doing to remedy this, to my mind, the most serious problem confronting the physician.

May I turn now for a few moments to a less pleasant and more serious subject? I refer to our responsibility and our attitude to our fellow physicians. Ours is a strenuous profession, difficult at best, beset with many trials and temptations, our time is not our own, likewise our families must necessarily suffer as the result. Man's inhumanity to man is a somewhat hackneyed old proverb, but nevertheless, it still exists. Perhaps I am treading on dangerous ground in what I am about to say, but I am sure you will understand and take it in the way I mean it, that is, in a professional way. Have you, let me whisper in your ear, have you, and ever without proof, accused one of our fellows of being a professional abortionist, a beach comber, a fee splitter, a hop head, or a malpractice suit originator? Not a very nice array of titles, is it? Concerning the first three mentioned, I pass over quickly. We know that the poor wretches soon lose out in their practice and become fit emblems of their own degradation. But the man in the guise of a physician who deliberately and with malice aforethought, plots and plans with some unscrupulous person to secure a sum of money from an unfortunate fellow practitioner through a malpractice suit, should receive the severest condemnation of the entire profession. Such suits are often fanned into flame by some unthoughtful words of the physician. Yours may have been the bitter experience to have been called to testify against your friend because you were heard to have said something in an unguarded moment. Boys flying kites haul in their white winged birds; you cannot do that when you are flying words. Somewhere in Othello there is a passage which reads: "Who steals my purse, steals trash; 'twas mine, 'tis his and has been slave to thousands, but he that filches from me my good name robs me of that which not enriches him and make me poor indeed." May I relate briefly an incident, the veracity of which I can vouch? A recent graduate located in a small town in a mid-western state. Shortly, he was approached by one of the profession from a near by city. Said the elder man, "I know you will soon have much reference work, send it to me, come in and see me twice a month and I will have a pleasant surprise for you." The younger of the two said nothing and did nothing. In a short time came the visitor again. He hinted that a malpractice suit would be brought against the young man. That was more than enough. The young doctor sought a location elsewhere. I admit that such, as related, does not often happen. I further admit that only once have I been approached in my professional career, and that by a man who was never able to gain entrance to his County or State Society.

Do you remember the oath of Hippocrates? It will bear repeating here: "With purity and holiness will I watch my life and art, into whatever house I shall enter, I will go to the aid of the sick, abstain from every voluntary act of injustice and corruption. Whatever in the life of men I shall see or hear, in my practice or without, which should not be made public, this will I hold in silence, believing that such things should not be spoken. While I keep this, my oath, inviolate and unbroken, may it be granted to me to enjoy life and my art, forever honored by all men; but should I by transgression violate it, be mine the reverse." I believe that in no other profession does the expression, am I my brother's keeper, mean so much as it does in medicine. May I relate the following story as told by Dr. Irvin Abell? It will bring out well the point I am trying to get over. A young doctor, who later in life became president of this Association, and was one of the greatest men in the medical history of Kentucky, had asked to exhibit a certain appliance over which he had worked long and hard. He was told to appear before a general session of the Kentucky State Medical Association. At the appointed time he presented himself at the assembly hall, which was crowded with physicians. Rather important fellows; I imagine they wore long beards, frock tail coats and had across their vests heavy gold watch chains. They took their medicine seriously in those days. In my mind's eye I can see the young doctor standing in the rear of that large hall, his beloved brace under is arm. He is rather serious, somewhat pale, yet composed and confident. Suddenly, the voice of the presiding officer booms out. He requests the doctor to come forward and present his exhibit. Eagerly, the young man starts forward—again, the voice of the chairman—but you must pay your dues before you will be

allowed to speak. Chagrin, embarrassment and despair play over the face of the young surgeon. He had no money, he barely had enough to get to the meeting. What a predicament—it seemed to him hours had passed, he would have willingly dropped through the floor. Suddenly he felt a tug on his arm, and a ten dollar bill was thrust into his hand. With great relief he went forward, almost on the run, paid his dues, presented his brace and received almost an ovation. Who was the good samaritan? A great, and a much loved Kentucky doctor—Dr. William Cheatham. Who was the young doctor? That is another story. The president might have spared the young doctor his mental anguish, but he didn't. Doctor Cheatham understood the situation at once, and with that divine spark of brotherly kindness, bridged the gap and saved the day. Yes, we are our brother's keeper, always.

"To thine own self be true, and as night follows the day,
Thou canst not then be false to any man."

"A king once said of a prince struck down: 'Taller he seems in death.' And this speech holds truth, for now, as then, 'tis after death, we measure men." (James Barrow Hope)

Would it not be better for you and me to pay tribute to our fellowmen while they live, to be friendly, kindly, sympathetic and true? Let us play fair in our dealings not only with each other but with our patients as well. This is said with especial reference to consultations. You and I, when called in consultation are there to shed what light we can, to aid the patient and to protect the physician in charge, unless we know that he is in gross error, in which case much diplomacy must be shown. Avoid pompous posing and that holier than thou attitude. If we are of the opinion that radical change in treatment is needed, let it be known in a friendly way, and only in the presence of the physician in charge. Consultation for the most part is usually satisfactory to all concerned. At times, unethical dealings may cause havoc to all concerned.

Sit closer friends, death grants us yet a little time, down the dim distance of life's highway stands the grim reaper. By medicine, life may be prolonged, yet death will seize the doctor, too. How well we know this and yet, ours is the kind of profession that brooks little interference. The death rate for American physicians and surgeons is gravely higher than the general figure for all workers covered in the study of "Death Rate by Occupation." The death rate is 10 69 in comparison, the legal profession is 7.89, clergymen 10.33, college professors and presidents 2.69 and dental 7.68. Two diseases generally thought to be most frequent among medical men, according to Sir Humphrey Rolleson, are cardiac and gastro-intestinal. Over-worn, worry, stress and strain, lack of sleep, irregular hours of eating, are also important factors. We should take the advice we so freely give to our patients: more play, more relaxation, more diversion, more social life, set aside a day or a half day each week for play. If possible, have a hobby. I should like to tell you how you might get a chance to read the stacked up journals and the secular magazines, but I know no such plan. The layman must be educated to the fact that the physician must have more rest, they must be taught to exercise more judgment in calling the doctor unnecessarily, especially at night and at meal times. If the life span of the physician is to be increased, a marked metamorphosis must be instituted. The doctor of the future, perhaps, will profit thereby. Such changes will be gradual and slow. In the meantime, our journals will continue to publish long lists of death notices of comparatively young men. What a price we pay, and, for what? Perhaps Robert Louis Stevenson had this in mind when he wrote: "There are men and classes of men that stand above the common herd: The soldier, the sailor, and the shepherd not infrequently, the artist rarely, rarelier still, the clergyman, the physician almost as a rule. He is the flower (such as it is) of our civilization, and when that stage of man is done with, and only to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those that practice an art, never to those who drive a trade, discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage, so that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing."

To the young men of the profession—strive to enter the narrow gate of ethics and fair dealing. Yours is a rare heritage, may you catch the vision and, holding high the flaming torch of our art, blaze the way for harrassed humanity. To you who have travelled far down the rugged roads: Blessed be you for the part you have played; for the good you have done; for the lives you have saved; for the fame you have won and for the life you have lived. God speed you. Verily, can you say:

"In the fell clutches of circumstance
I have not winced or cried aloud.
Under the bludgeoning of chance,

My head is bloody but unbowed.
Beyond this place of wrath and tears
Looms but the horror of the shade,
And yet the menace of the years
Finds and shall find me unafraid.
It matters not how straight the gate,
How charged with punishment the scroll
I am the master of my fate
I am the captain of my soul."

—(William Ernest Henley.)

Hail! But not farewell.

BOOK REVIEW

EMOTIONS AND BODILY CHANGES, A Survey of Literature on Psychosomatic Interrelations, 1910-1933, by H. Flander Dunbar, M. D., Ph. D., Department of Medicine and Psychiatry, Columbia University.

Scientific study of emotional life today and of the bodily changes that accompany diverse types of emotional experiences marks a new era in medicine. We know now that many bodily changes can be controlled by way of emotions. Yet our scientific data in this field has never been gathered together. These facts, on the other hand, afford an indispensable corrective to our present day overspecialization and certain failures of our organicistic therapy. At the same time certain of our social problems, ranging from such matters as compensation or socialized medicine to child education, should be reviewed in the light of these facts.

The volume represents an attempt to bring together in some perspective the research contributions from various quarters (such as biology, psychology including psychoanalysis, and clinical medicine) which have combined to develop the new concepts in medicine. In Part I the development of theory is emphasized, in Part II clinical research and application, and in Part III deductions in terms of therapy and research possibilities. (The much vexed question of the measurement of emotion is considered.)

Although at the close of this survey the temptation arose to give a digest, summarizing major trends of thought and research in each specialty, it was decided to offer to the reader the possibility of making his own digest on the basis of representative partial abstracts and relevant excerpts. In consequence a great deal of source material is given, a considerable part of which is translation of material as yet unavailable in English.

Columbia University Press, New York City, publishers. Price $5.00.

ECONOMIC PROBLEMS OF MEDICINE, by A. C. Christie, M. S., M. D. Professor of Clinical Radiology, Georgetown University Medical School; President, Fifth International Congress of Radiology; formerly President of the Medical Society of the District of Columbia, the American Roentgen Ray Society, the American College of Radiology and member of the Committee on the Costs of Medical Care.

The subjects discussed are medical ethics in its relation to medical economics; economic aspects of medical education; economic aspects of private practice; the physician and the hospital; the relation of the physician to medical organization; the relation of the physician to the community; medical care under workmen's compensation laws; health insurance; industrial medicine; new methods in medical care under trial or recommended by medical organizations; health insurance as a solution to the problems of medical care; essential elements in a comprehensive plan for medical care.

The Macmillan Company, New York, publishers. Price $2.00.

THE NERVOUS PATIENT, A Frontier of Internal Medicine, by Charles Phillips Emerson, M. D., Research Professor of Medicine, Indiana University, Indianapolis.

A real book for the general practitioner. It is they alone who see organic and mental diseases in their earliest stages, when prevention and cure are possible. It is they alone who are in position to detect among the "well" children of the families they treat the early evidences of troubles which later only psychiatrists can handle.

For each patient who consults the general practitioner for symptoms which clearly indicate organic diseases, there are at least two others who complain of nervousness. The person who, weakened by latent, unrecognized organic disease, tires too easily, refuses to reconcile himself to his inefficiency, the optimist of yesterday, who today has lost the joy of life, the "emotional" person whom every symptom startles, the one to whom a chance pain suggests a serious disorder, the one who "trembling inside, cannot let go of himself," all call themselves "nervous."

Our suggestion is not that the medical practitioner should prepare himself for some new medical field, but that he should, thanks to the recent great advances in internal medicine, treat better exactly the same groups of patients who, since the time of Hippocrates, have filled general practitioners' offices with much the same complaints.

J. B. Lippincott Company, Philadelphia, publishers. Price $4.00.

Kentucky Medical Journal

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NEXT MEETING PADUCAH

COUNTY SOCIETY REPORTS

Grant: The Grant County Medical Society met in regular session October 16, at the usual hour, at the office of the Health Department with Dr. J. J. Marshall, president, in the chair. Minutes of last meeting were read and approved, and communications disposed of in the usual manner.

Communication from the State Board, urging the prosecution of illegal practice of medicine was accepted enthusiastically. Some interesting case reports occupied some little time and were instructive and interesting.

A report of the State Meeting, by Dr. N H. Ellis and Dr. J. J. Marshal was interesting and complete, showing how this meeting was a real Post Graduate course for all who attended, and more than half of the doctors in the State were present. All our members should have heard this report.

We now considered our absent brother, Dr. A. D. Blaine, and a motion was made and seconded that this society extend our utmost sympathy to him in his affliction as well as his good wife, and hoping they will soon speedily recover, and Doctor be again restored to our society.

The Resolutions of Respect to Dr. C. D. O'Hara deceased was read. A copy of which is recorded on our minutes as follows:

Resolutions of Respect

Whereas, God in His Infinite Wisdom has seen fit to remove from our midst Dr. C. D. O Hara, one of Williamstown's leading physicians and citizens, and having known Dr. O'Hara personally for thirty-two years as a brother and fellow helpmate in general practice we miss him greatly.

Dr. O'Hara was one of the best students ever graduated from the Ohio Medical College, now the Medical School of the University of Cincinnati, and was an Interne in the Good Samaritan Hospital around 1896, an honor won in those days by competitive examinations, where they selected one of the best out of forty or more applicants.

Dr. O'Hara was a scholar in medicine and on numerous occasions we have heard his excellent work receive commendation at the hands of masters of medicine.

Dr. O'Hara was secretary of the Pension Board for Grant County a number of years, while the writer was a member of said Board, and I saw letters of congratulation on his excellent write-up's of applicants that came before this Board, and his rating by the Bureau of Pension at Washington, D. C., was one hundred per cent.

Dr. O'Hara was always ready and willing when asked to read a paper before our society, and was always up-to-date, showing him to be ever abreast with the times.

Now whereas, another one of our members

has answered the last call and whereas the Grant County Medical Society recognize in Dr. Dr. C. D. O'Hara one of the leading physicians of his day, therefore, be it resolved that the citizens of Williamstown and Grant County have suffered a loss in the death of a prominent citizen and one of its best qualified physicians, who for nealy forty years with the customary kindness and patience of the medical profession, administered to the needs and sufferings of his patients, holding himself ever ready at any hour of day or night to rush to the bedside of those stricken.

Whereas, the Grant County Medical Society have lost from their midst this professional brother who always took such active part in affairs of the society, this one to whom we could look in discussion for knowledge along all medical lines in an up-to-date discourse, and whose absence now will be felt and mourned by each remaining member.

Therefore, be it resolved that the Grant County Medical Society has lost a valuable member, the community a faithful citizen and competent physician, and his children a devoted father.

To the immediate family the Grant County Medical Society extend their heart felt sympathy, pledging to them our whole-hearted support in all their efforts in making our community a better place in which to live.

Be it further resolved that a copy of these resolutions be sent to the family, one to the Grant County News, and one be spread in the minutes of our Society.

N. H. ELLIS,
C. A. ECKLER,
Committee.

A bill for the flowers for O. P. Elliston was allowed $6.50. Those contributing $1.00 were Dr. Marshal, Kinsey, N. H. Ellis, C. M. Eckler and C. A. Eckler.

Topic for the next meeting: A paper on Oral Hygiene, by Dr. S. B. Rich, D. D. S., of Dry Ridge.

We now adjourned to meet the third Wednesday in November.

C. A. ECKLER, Secretary.

Grant: The Grant County Medical Society met in regular session, August 21, 1935, at the office of the Health Department. The members present were Doctors A. D. Blaine, J. J. Marshall, J. L. Price, R. E. Kinsey, J. T. Davis, and C. A. Eckler.

Minutes of the last meeting were read and approved, and communications, some very interesting, were read and laid over to be read at future meetings. One communication from Dr. McCormack where he had succeeded in raising obstetrical fee in relief cases, to twenty dollars, was received with approval; another communication of ridding the state of quackery, that is, illegally practicing medicine without license. This was an urgent appeal for action by our Society, to report any offense known to be illegal.

We now received report of clinical cases, and interesting cases were reported, including Devil's Grippe, or Epidemic Pleurodynia, as the medical world calls it. An interesting case of Pleurisy with effusion, where operation and withdrawal of fluid were made and two days later patient had acute dilitation of the heart, death following. Another interesting case of Shingles, or Herpes Zoster, was reported with pituitrin as cure for same. We continued case reports to a late hour and made this the topic for the evening.

We now adjourned to meet the third week in September at the usual hour.

C. A. ECKLER, Secretary.

Pulaski: Dr. Silas Green Cain passed away suddenly at his home September 11, 1935. Though Dr. Cain had not been well for a number of years his sudden death came as a surprise and shock to the medical profession and a host of friends in this and adjoining counties.

In the passing of Dr. Cain the medical profession of Pulaski County lost another of its oldest colleagues. He had spent forty-two years in active practice in Texas and Kentucky.

Dr. Cain was congenial and kind in his personal and professional life, he made many friends. He was never too busy to render services to the needy.

BE IT RESOLVED by the Pulaski County Medical Society that we pay this last tribute of respect to his memory and services and that we extend our deepest sympathy to his wife whose loss we share.

BE IT FURTHER RESOLVED that a copy of these resolutions be spread on the minutes of this society, a copy be furnished Mrs. Cain, and a copy be sent to the Kentucky Medical Journal.

Wm. Price,
C. L. Waddle,
Carl Norfleet,
Committee.

Unanimously passed by the Pulaski County Medical Society at its regular meeting on October 17th, 1935.

M. C. SPRADLIN, Secretary.

NEWS ITEMS

Dr. Richard T. Hudson announces the removal of his office to Suite 922 Heyburn Building, Louisville, Kentucky. Practice limited to fractures and orthopedic surgery.

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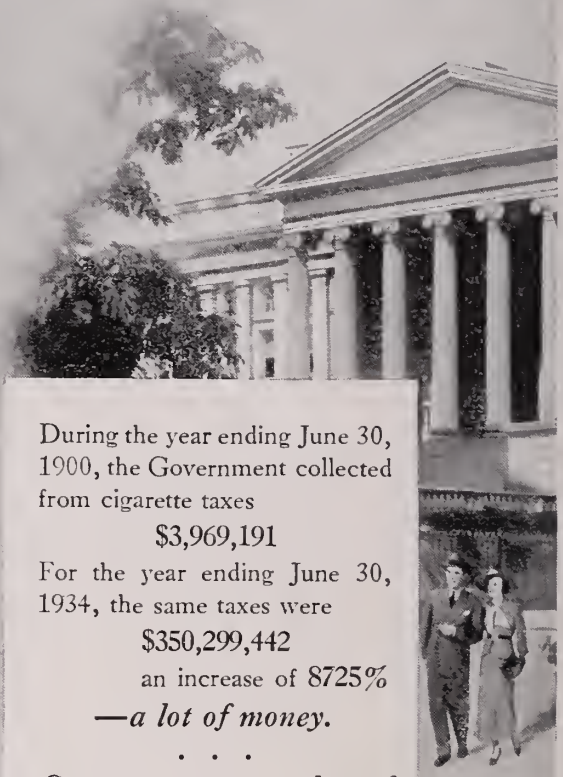
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KENTUCKY MEDICAL JOURNAL

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Again, interest has sometimes been expressed in regard to the nature and purpose of the enamels found in cans in which certain products are packed. These enamels are essentially lacquers developed by years of intensive research; they are baked on the tin surface at high temperatures. Their chief purpose is to preserve natural flavor and color characteristics of some foods. While desirable in certain instances, enameled cans are not necessary to insure a wholesome canned product.

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(1) 1934. Ind. Eng. Chem. 26, 758
(2) 1932. Ind. Eng. Chem. 24, 650

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Waukesha, Wis.

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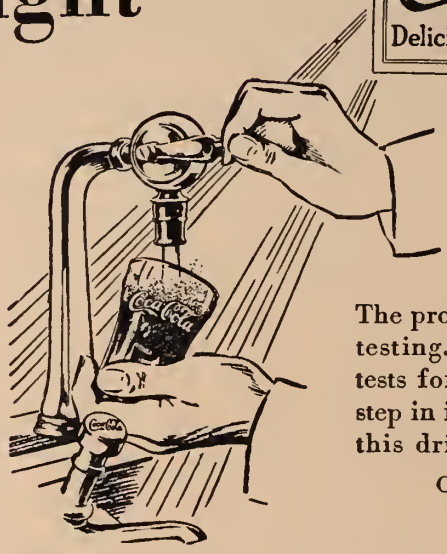
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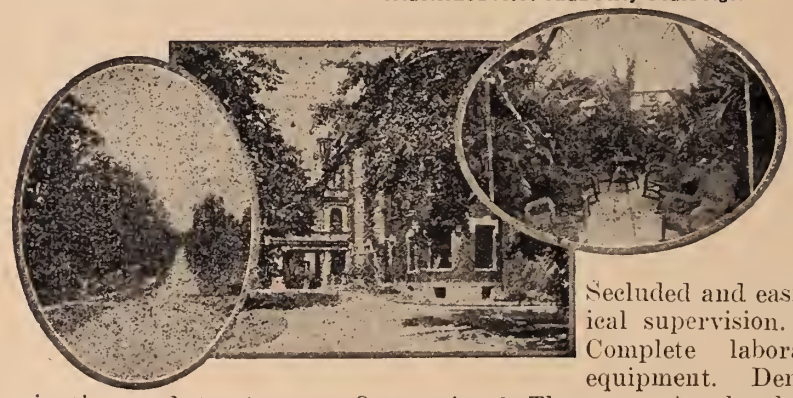
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Allen	A. O. Miller	Petroleum	December 25
Anderson	J. B. Lyon	Lawrenceburg	December 2
Ballard	F. H. Russell	Wickliffe	December 16
Barren	Paul S. York	Glasgow	December 18
Bath	H. S. Gilmore	Owingsville	December 9
Bell	R. F. Porter	Middlesboro	December 13
Boone	R. E. Ryle	Walton	December 18
Bourbon	W. B. Hopkins	Paris	December 19
Boyd	R. G. Culley	Ashland	December 5
Boyle	P. C. Sanders	Danville	December 16
Bracken	J. M. Stevenson	Brooksville	December 2
Breathitt	Frank K. Sewell	Jackson	December 17
Breckinridge	J. E. Kincheloe	Hardinsburg	December 12
Bullitt	S. H. Ridgeway	Shepherdsville	December —
Butler	G. E. Embry	Morgantown	December 4
Caldwell	W. L. Cash	Princeton	December 5
Calloway	W. H. Graves	Murray	December 5
Campbell-Kenton	Luther Bach	Bellevue	December 5-19
Carlisle	J. F. Dunn	Arlington	December 3
Carroll	J. M. Ryan	Carrollton	December —
Carter	W. S. Hawn	Grayson	December 16
Casey	Wm. J. Sweeney	Liberty	December 26
Christian	M. A. Gilmore	Hopkinsville	December 17
Clark	R. E. Strode	Winchester	December 26
Clay	J. L. Anderson	Manchestor	December 10
Clinton	S. F. Stephenson	Albany	December 21
Crittendon	C. G. Moreland	Marion	December 9
Cumberland	W. F. Owsley	Burkesville	December 4
Daviess	I. A. Thorpe	Owensboro	December 10-24
Elliott	W. H. Joyner, Act. Sec.	Sandy Hook	
Estill			December 11
Fayette	John Harvey	Lexington	December 16
Fleming	C. W. Christine	Flemingsburg	December 11
Floyd	J. G. Archer	Allen	December 25
Franklin	W. S. Snyder, Jr.	Frankfort	December 5
Fulton	J. C. Morrison	Hickman	December 11
Gallatin	J. M. Stallard	Sparta	December 19
Garrard	J. E. Edwards	Lancaster	December 15
Grant	C. A. Eckler	Dry Ridge	December 18
Graves	H. H. Hunt	Mayfield	December 3
Grayson	C. F. Blankenship	Leitchfield	December 26
Green	S. J. Simmons	Greensburg	December 2
Greenup	C. W. Monroe	Greenup	December 13
Hancock	F. M. Griffin	Hawesville	December 2
Hardin	D. E. McClure	Elizabethtown	December 12
Harlan	W. R. Parks	Harlan	December 21
Harrison	W. B. Moore	Cynthiana	December 2
Hart	S. F. Richardson	Munfordville	December 3
Henderson	Walter O'Nan	Henderson	December 9-23
Henry	Owen Carroll	New Castle	December 30
Hickman	Chas. Hunt	Clinton	December 5
Hopkins	David L. Salman	Madisonville	December 5
Jackson			December 7
Jefferson	Uley H. Smith		December 2-16
Jessamine	J. A. VanArsdall	Nicholasville	December 19
Johnson	P. B. Hall	Paintsville	December 14
Knott	M. F. Kelley	Hindman	December 28
Knox	T. R. Davis	Barbourville	December 27
Larue	D. W. Gaddie	Hodgenville	December 3
Laurel	Oscar D. Brock	London	December 12
Lawrence	W. C. Gose	Louisa	December 16
Lee	W. D. McCullom	Beattyville	December 14
Leslie	John H. Kooser	Hyden	December —
Letcher	R. Dow Collins	Whitesburg	December 31
Lewis	J. D. Liles	Vanceburg	December 16
Lincoln	Lewis J. Jones	Houstonville	December 20
Livingston	Wm. C. Davis	Salem	December —
Logan	Walter Byrne, Jr.	Russellville	December 4
Lyon	H. H. Woodson	Eddyville	December 3
McCracken	Leon Higdon	Paducah	December 25
McCreary	R. M. Smith	Stearns	December 2
McLean	G. L. Thompson	Calhoun	December 12
Madison	Lewis C. Coleman	Richmond	December 19

COUNTY	SECRETARY	RESIDENCE	DATE 1935
Marion	W. A. Risteen	Lebanon	December 17
Marshall	S. L. Henson	Benton	December 18
Mason	O. M. Goodloe	Maysville	December 11
Meade	A. A. Baxter	Brandenburg	December 26
Menefee	E. T. Riley	Frenchburg	December —
Mercer	J. Tom Price	Harrodsburg	December 10
Metcalfe	E. S. Dunham	Edmonton	December 3
Monroe	P. W. Bushong	Tompkinsville	December —
Montgomery	D. H. Bush	Mt. Sterling	December 10
Morgan	W. H. Wheeler	Betsy Sayne	December —
Muhlenborg	E. L. Gates	Greenville	December 10
Nelson	R. H. Greenwell	Bardstown	December 18
Nicholas	T. P. Scott	Carlisle	December 16
Ohio	Oscar Allen	McHenry	December 4
Oldham	S. J. Smock	LaGrange	December 3
Owen	K. S. McBee	Owenton	December 5
Owsley	D. E. Wilder	Booneville	December 2
Pendleton	W. A. McKenney	Falmouth	December 11
Perry	R. L. Collins	Hazard	December 9
Pike	D. Flanary	Pikeville	December 2
Powell	W. Johnson	Stanton	December 2
Pulaski	M. C. Spradlin	Somerset	December 12
Robertson			December 16
Rockcastle	Lee Chestnut	Mount Vernon	December 12
Rowan	A. W. Adkins	Morehead	December 9
Russell	J. B. Scholl	Jabez	December 9
Scott	F. W. Caudill	Georgetown	December 5
Shelby	W. E. Morris	Shelbyville	December 18
Simpson	N. C. Witt	Franklin	December 10
Spencer			
Taylor	M. M. Hall	Campbellsville	December 5
Todd	B. E. Boone, Jr.	Elkton	December 4
Trigg	H. L. Wallace	Cadiz	December 25
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	December 25
Warren	Hal Neal	Bowling Green	December 11
Washington	J. H. Hopper	Willisburg	December 18
Wayne	R. E. Teague	Monticello	December
Webster	C. M. Smith	Dixon	December 27
Whitley	C. A. Moss	Williamsburg	December —
Wolfe	G. M. Center	Campton	December 2
Woodford	Chas. F. Voigt	Midway	December 5

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10. Made by Shuron

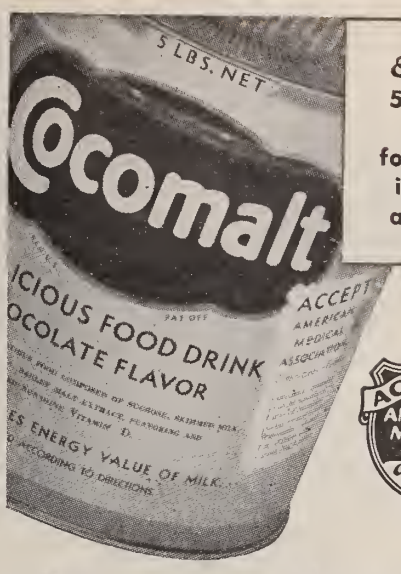
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FOR MAL-NOURISHED CHILDREN

UNAFRAID



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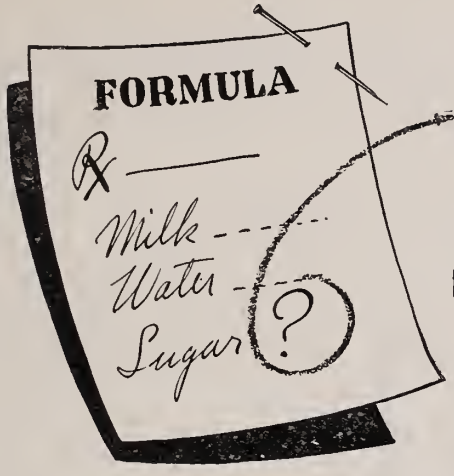
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Both of these Squibb Ipral Products are supplied in bottles of 100 and 1000 tablets. For descriptive literature address the Professional Service Department, 745 Fifth Avenue, New York City.



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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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UROLOGISTS GO TO NASHVILLE

Urologists of Louisville and all Kentucky are invited to attend the second meeting of the Southeastern Branch Society of the American Urological Association at the Noel Hotel, Nashville, Tenn., December 6 and 7. Kentucky is to be taken into the society at this time. The present membership is composed of men from Alabama, Florida, Georgia, North Carolina, South Carolina, Mississippi, Tennessee and Louisiana.

As pointed out by Dr. Owsley Grant, all physicians who are interested in urology, either as part-time or full-time urologists, whether they are members of the American Urological Association or not, are urged to attend the meeting. Special provision has been made for associate memberships which will include all who are interested in the advancement of urology as a specialty.

Men who are nationally prominent in this field of medicine will be on the program at the Nashville meeting. Speakers will be: Dr. Montague Boyd, Head Urological Department, Piedmont Hospital, Atlanta; Dr. Wm. Braasch, Head Urological Department, Mayo Clinic; Dr. Robert Herbst, Professor Clinical Surgery, Rush Medical College, Chicago; Dr. Burnett W. Wright, Medical Department, University of Southern California; Dr. Hugh Cabot, author of Cabot's Urology and Consulting Surgeon Mayo Clinic; Dr. Wm. E. Lower, Cleveland Clinic; Dr. A. I. Folsom, Professor Urology, Baylor Medical College, Dallas; Dr. John H. Morrissey, Attending Surgeon, New York City Hospital; Dr. Thomas J. Kirwin, Cornell University Medical College; and Dr. George Gilbert Smith, Boston, President of the American Urological Association.

THE MESSAGE OF THE CHRISTMAS SEAL

The Christmas season was heralded throughout the land on Thanksgiving Day by the ring of carving knife againt sharpening steel as savory vapors rose like incense from the luscious brown turkey. It has been traditional during this period to count the blessings the year has brought and to plan gifts that would bring joy to others as the Christian world celebrates the birth of the Christ Child. At that time too, in the great human fellowship that is also the Christmas spirit, our thoughts went out to those less fortunate than ourselves.

The most striking messengers that come every year to plead for our attention are the little Christmas Seals. This year marks their twenty-ninth appearance throughout the United States in the interest of the tuberculous. The message they bring, and to which it behooves all of us to give ear, is that tuberculosis is still this country's greatest public health problem. It has taken from us 82,234 of our fellow citizens since 1911.

It caused more than twice as many deaths in Kentucky in the same length of time, as the great World War. In 1933 it was the leading cause of all deaths, at all ages, due to preventable diseases in our State. In spite of its declining death rate it is still the leading cause of death in Kentucky between the ages of 10 and 50 years.

The Kentucky Tuberculosis Association, sponsor of the Christmas Seal campaign, points out that the difficulty in controlling tuberculosis lies in the fact that it is not similar to those less important diseases whose names trip so familiarly across our tongues, typhoid, small pox, diphtheria and pneumonia.

Fatal though these diseases are, they all have a common feature of developing suddenly, and within a brief time achieving a crisis that decides the fate of the afflicted individual.

Tuberculosis, on the other hand, develops slowly without any distinguishing symptoms. No medicine has yet been discovered that will cure it, and the only known method of cure is the slow convalescence of days spent resting in bed. During its period of active development within the human body the germs of tuberculosis are given off. They spread silently, but with deadly accuracy to others, and thus the cycle is begun again.

In order to discover the presence of these germs in the human body, before damage is done, and at a period when complete cure may be expected, it is necessary for the family physician to be familiar with all modern procedures within reach of all who desire to use them. The responsibility for finding, treating and controlling tuberculosis

lies mainly in the hands of the family physician, for most of the early cases come under his hand.

The Christmas Seal pleads with every physician to become a finder of early tuberculosis, a skilled administrator in its control, a master in directing the afflicted ones back to health and happiness, as well as an educator in the great field of tuberculosis prevention.

Christmas Seals offer the opportunity to help others to protect ourselves, and to spread the message of good will to men by their appearance on our Christmas letters, cards and packages. We heartily endorse the spirit of the statement "It takes Christmas Seals to make it Christmas mail."

JEFFERSON COUNTY MEDICAL SOCIETY GUEST SPEAKER

Dr. Esmond R. Long, of the Henry Phipps Institute, University of Pennsylvania, well known authority on tuberculosis, and author of several books and many periodicals, will be a guest speaker before the Jefferson County Medical Society on December 2, at 8:00 P. M., in the Louisville City Hospital auditorium.

We cordially invite the members of the Kentucky State Medical Association to hear Dr. Long, and we assure you that you will be amply repaid for the distance traveled to hear him.

The Louisville Tuberculosis Association which is sponsoring this address, each year brings to Louisville an outstanding speaker, a man of known reputation and one who has contributed much to our knowledge of tuberculosis. This year will be no exception and we look forward with much pleasure to Dr. Long's visit in our City.

James H. Pritchett, M. D., President.

THE JOURNAL OF THE A. M. A.

Attention was called frequently at the recent meeting of the Association to the importance of our physicians being familiar with the columns of the Journal of the American Medical Association and with its Bulletin. The Journal of the A. M. A. is the greatest medical journal in the world. We frankly do not see how a doctor feels safe in the practice of his profession without at least reading the details in each issue and the full article where it contains something of interest.

We are glad to take this occasion to urge our members to become Fellows of the American Medical Association. All that is necessary is to write for an application blank to the American Medical Association, 535 North Dearborn Street, Chicago, Illinois, and if you are in good standing in your county and state society you are eligible for membership.

RELIABLE APPARATUS

The Journal has received from the American Medical Association a small pamphlet containing a list of the apparatus accepted by the Council on Physical Therapy, the first one published under the direction and supervision of the Council. In addition to the list and description of accepted apparatus, the pamphlet contains indications for the use of each type and a statement relative to efficacies and dangers.

This pamphlet is a real contribution on the part of the American Medical Association in behalf of rational therapeutics, an effort to help place physical therapy on a sound, scientific basis for the benefit of the medical profession.

One of the purposes of the Council on Physical Therapy is to protect the medical profession, and thereby the public, against inefficient and possible dangerous apparatus and against misleading and deceptive advertising in connection with the manufacture and sale of devices for physical therapy.

Apparatus accepted includes all the devices accepted by the Council prior to May, 1935. Any physician can obtain this pamphlet free by writing to the Secretary, Council on Physical Therapy, A. M. A., 535 North Dearborn Street, Chicago.

PRACTICAL NEUROLOGICAL DIAGNOSIS

One of the most carefully prepared and valuable books that have come to our attention has been written by one of the very distinguished members of the profession of Kentucky, Dr. R. Glen Spurling, under the above title.

To those of us who were handicapped by the immaturity of the earlier teaching in neurologic diagnosis and surgery this splendidly illustrated work is very illuminating. It is simple, direct and could be easily understood by the senior students, is an equally practical guide for the general practitioner and for the large group of specialists whose fields impinge on that of neurology. We have had no practical work by a man in a limited fields in many years that we would consider more necessary in the library of every physician. We are particularly glad that we are able to say such things about a work written by one of our own men with the dynamic personality of Dr. Spurling.

ORIGINAL ARTICLES

DR. JOSEPH N. McCORMACK OF KENTUCKY AND UNITED STATES OF AMERICA*

W. J. HAMMILL**

Omaha, Neb.

The more one studies into the field of medicine the more he is enthralled by the thought that it is not only a wonderful domain but he is astounded at its limitless subject of study. The art of healing human beings starts from the earliest efforts of civilization, nay of the uncivilized. There are in its study the profoundest questions of philosophy, the most complicated problems of science, the researches of infinitesimal matter, and the complications of chemical activities.

Along with these intricate questions there are also the social problems of medicine, the adjustments of the science of healing to the needs of the human beings and the political, moral and even religious relationship. Could there be then any more extensive or interesting study than this greatest of all sciences, Medicine? It is not a simple science. It is a composite one that involves parts of almost all sciences, philosophies and human history. You naturally see, therefore, that to expound this field would require volumes of almost endless variety.

Out of this endless variety I have selected for this paper a little chapter from the American Medical History of this twentieth century and shall center it around a personality named Dr. Joseph Nathaniel McCormack, of Irish ancestry, who was born and died in the Blue Grass state of Kentucky.

His life span began when the American Medical Association was started in 1847 and ended in a restful sleep on May 4, 1922.

I was attracted to the study of this Kentucky Doctor when carrying on somewhat of a detailed research in the progress of medicine in our country since 1900. One is struck when he studies this period by several very prominent phenomena in medicine. He reads of the standardizing and improving the medical education, of the growth of hospitalization, of the organizing of the medical profession in its unified and specialized parts, of the extermination of quacks and quackery, of the development of health laws and sanitation, of the rise of great centers for medical investigation like the Rockefeller and Carnegie Foundations. When all these developments are noted one naturally endeavors to answer the question, where was the motive power that brought all these great movements about.

In searching the answer to this question I discovered this Kentucky doctor and in following his almost ceaseless activities I found the answer to the larger part of these questions.

As a boy he was reared in a large family on a Kentucky farm working with might and main to feed and clothe the family. His ambition was to be a doctor. With a meager schooling he became like Lincoln, largely self taught.

At the age of twenty-three he graduated at the Miami Medical College in Cincinnati, and began practice in the country district of Nelson county among the Irish families who became such admirers of the young doctor that they never relaxed their friendship.

At twenty-nine he opened up a wider practice at Bowling Green. Three years later there occurred one of those fortunate opportunities that caused the current of his ambition to surge in the definite direction that brought his ability to its maximum and made his reputation later known throughout the entire country.

In 1879 there was dedicated at Danville, Kentucky, a statue erected by the doctors of that state to the memory of Dr. Ephraim McDowell, famous for the first operation in science for ovary tumor in 1809. Dr. Samuel Gross of Philadelphia delivered the oration and emphasized the thesis that the great development in medicine was to take place in the field of Preventive Medicine and Sanitation. This thought so impressed Dr. McCormack at that time that he determined to make that immense field his specialty.

Now to have sanitation it is necessary to have some laws to control individuals and communities for it is vastly different from the individual's effort to rid himself of disease. At that time Kentucky, like every other state, had no laws on the statute books that controlled the activities of localities regarding sanitation and the prevention of contagion. Epidemics of yellow fever, cholera, typhoid fever and other preventable diseases came and went in their regular seasons, practically nothing was ever done to prevent their recurrence.

*Reproduced from The Nebraska State Medical Journal, August, 1935.

**Student of Medical History.

Dr. McCormack realized this want and set to work to have the first law written on the statute books to control water supply, purification of water systems, quarantine and other necessary public safety regulations. There was created the State Board of Health. He became its secretary in 1882 and for thirty years stayed in the same office working unceasingly with great skill, tact and ingenuity to add new laws, built almost entirely by the tireless efforts of the secretary, Dr. McCormack. It is recorded that he visited every section of the state legislature during all these years and himself wrote the bills that perfected the model system.

But the doctor realized that to get good health laws he must get back of the Board of Health, the intelligent and enthusiastic support of the medical profession, and so he started to rejuvenate the weak medical society of the state by organizing effectively the county societies and from these securing delegates to take active part in the state society. His skill, tact and energy accomplished this and unified the doctors of the state for preventive medicine.

Then along with this he undertook to rid the profession and the public of the quack, the charlatan and the ignorant practitioner. In those days Louisville was sort of a rendezvous for the diploma mill school. Sixteen medical schools were located there and more men were graduated to doctor than in any other city of the country.

McCormack started in to control these and was succeeding masterfully when a new and greater field presented itself. He realized that the education of the future doctors would have to be controlled throughout the nation if Kentucky was to be protected. The only avenue by which it seemed possible to his incisive mind was through the American Medical Association, which had been in existence for over fifty years, having been started under the inspiration of Dr. Nathan Davis in 1847 to raise the standard of American medicine and to improve the institutions that taught that subject. It had met year after year, passed resolutions, appointed committees, held special conventions and talked and discussed the topic for those 53 years, but the situation had grown worse, the growth of the country had brought an immense increase in proprietary schools, quacks roamed the land in caravans and the public was deluged by nostrums of every color and kind. The year 1900, the dawn of the new century, was most propitious for the launching of the progressive reform movement. The leaders of the American Medical Association had been changed. They felt that the opportunity had come for that body to appeal to the mass of doctors throughout the country in a way that had never before been done. There was published by this organization a good scientific weekly called the Journal but it had a circulation of only about 12,000 and it was but slightly read by the profession. A new editor by the name of Dr. George H. Simmons from Nebraska had taken over the editorship in 1899 and his ability had begun to show itself and he with other progressives like Dr. McCormack of Ky., Dr. Keen, of Pa., and Dr. Reed of Cincinnati, Ohio, determined to lead a forward movement to replace the old constitution with a more workable one that would eliminate the do nothingness that existed in the affairs of the association for the half century of its history.

The progress in organization and law making that had developed in Kentucky under the inspiring leadership of Dr. McCormack and his state board of health had become nationally known and so the good fortune came to him and the association to make use of his legal mind to formulate a new constitution.

In 1900 President Reed, of Cincinnati, who knew of the Kentucky organization by contact, appointed the celebrated committee on Reorganization, consisting of Drs. McCormack, Simmons, and Forshay of Cleveland. "History," Dr. Reed says, "will never record the labors of that committee, especially the labors of Dr. McCormack, during the ensuing year. I, as ex-officio member of the committee, happen to know of both. The numerous and long journeys; the frequent and prolonged conferences; the careful preparation of tentatives; their patient consideration, frequent amendment and occasional abandonment for others; and so on until the perfected instrument was ready for consideration at St. Paul. There McCormack displayed his always splendid generalship—the generalship of an open field and a fair fight. He met the opposition that was at once interested, strong and entrenched. It was his policy to fight out all differences in committee before the final contest in general session. Every opponent was given a chance to state his objection, but every reason back of each objection was successfully controverted by McCormack. The net result was that one leader of the opposition made the mo-

tion to adopt, another seconded it and the whole revolutionary document w e n t through with a whirl; a long and acrimonious controversy was ended; an era of genuine good fellowship was inaugurated.

"The constitution reported by McCormack and adopted without change by the association embraced a few cardinal features: (1) The segregation of the legislative and executive functions from the scientific proceedings, (2) the creation of the House of Delegates as a unicameral legislative body, (3) the decentralization of authority by a choice of delegates on a per capita basis by the state association, with (4) all members of state association, which were made an integral part of the national body; (5) the development of county societies as the ultimate unit of organization under their respective state associations, with (6) all members of state associations becoming fee paying subscribers to the Journal. It was McCormack's policy, it was the policy of all who were privileged to work with him, the policy of the whole association at the time, first, that every eligible member of the profession should be brought within the fold; second, that, under and by virtue of the constitution, the association as such, through its properly constituted but always controlled agencies, would determine its own personnel, control its own assets and determine its own policies; third, that its Journal, its one revenue earning asset, should be developed primarily for the prompt and wide dissemination of scientific knowledge among the members and secondarily for the no less important function of conserving the social, political and civic interests of the profession; and, fourth, by these means bringing the beneficent resources of medical science to bear on the cure of disease, the maintenance of health and the promotion of the welfare and happiness of all the people.

"The Association, like a ship just off dry dock, its barnacles all gone, with a new approved chart, started on a fair voyage. McCormack declined to recognize his own task as completed when his report, the constitution, had been adopted. With the enthusiasm characteristic of him, he fairly jumped at the actual task of bringing all eligibles in the United States into the fold through the magic of the spoken word. He personally went from state to state, often county to county, and, with magnetic personality and eloquent appeal, succeeded even beyond his most sanguine expectations. The Journal at once leaped from considerably under ten thousand to considerably over sixty thousand subscribers; now, I believe, to something over eighty-five thousand. Its revenues, derived from your dues and from some independent subscribers but chiefly from its greatly enhanced advertising patronage at greatly advanced rates, made it one of the most valuable properties in the journalistic world. Land was purchased, buildings were erected, rented quarters were abandoned, new and efficient machinery was installed, while healthy surpluses were invested in safe securities. Such was the magic of organization; such were the fruits of McCormack's labors."

This twelve years of missionary work from 1901 through 1912 was a wonderful one for the reorganization of the medical societies of the entire country. State after state created new societies or revived sleeping ones all under the leadership of this magician from Kentucky who as Whitefield in the 18th century caused the great awakening in religion, so now Dr. McCormack by the magic of his speech, the persuasion of his ideas reawakened in medicine a feeling of a new social duty, of new organization. One needs only to read the newspaper comments about Dr. McCormack's address in every corner of the land to realize that his great message that he entitled "The New Gospel of Health and Long Life" was truly a great gospel both to the medical profession of the country and the laity as well, for his theory was that absorbed from Dr. Gross' address in 1879, that doctors and the people should cooperate to prevent disease more than to cure it.

One needs only to read the medical records of that period to recognize the vast influence of that great doctor from Kentucky. Not only were new state and county medical societies organized but almost every state established a medical magazine modeled after the Journal in which could be carried on the aggressive campaigns for public health, welfare and needed laws to uphold their theories. This was the epoch of new law making for health, of new hospitals, new institutions to investigate the causes of diseases and the reforming of the medical education of the country. And the credit must be given to the great personality of our doctor.

But let us now turn and see what the Reorganization Committee did for the American Medical Association. The new

constitution adopted at St. Paul under the masterful generalship of Dr. McCormack was patterned after the Kentucky system that he had led the physicians of that state to adopt some years before. The County Association was the unit and delegates from those were made the unicameral legislative business part of the association. In the American Medical Association the unit was mainly the state association from which came a select number of leading doctors to meet together as a House of Delegates to control the affairs of the national association. In the creation of this body Dr. McCormack deserted considerably the earlier democratic philosophy of the association in favor of a republican organization limited to about 175 members so apportioned that all sections of the country were represented. This did away with the unending talkfest that had dissipated the time and energies of the past meetings for the long fifty-three years.

This new representative body started in almost at once to develop some definite policies that would apply the ideals of the great reformer to upbuilding the medical profession of the country.

First of all it was decided to maintain Dr. McCormack's committee on reorganization and to send the chairman to the corners of our country to inspire and arouse the sleepiness of the medical fraternity and point the way to the great opportunities of unified action against disease particularly to introduce the ways of Preventive Medicine. Then, too, there was organized a standing committee that was to campaign by literature and lectures the dissemination of health knowledge in such a simple way that all parts of the laity would learn to cooperate in improving the sanitary and health conditions of every nook and cranny of our land. This is known as the Council of Health and Public Instruction. Dr. McCormack held a prominent place in its affairs till he retired from the association's work in 1913. Today this council can show a record of almost untold benefits to the public. The doctor's great faith in the education of the public in sanitation made this council his great favorite.

But in 1904 the House of Delegates decided upon the solution of the ever vexing problem of elevating the medical teaching and licentiate requirements that was the purpose of the first meeting of the association in Philadelphia in 1847.

The campaign was started by the speech of the President, Dr. Billings of Chicago, at the New Orleans meeting. He showed the absurdly deplorable condition in the educational organization of a vast number of the medical institutions and proposed that the House of Delegates establish a permanent Council on Education who should follow the slogan "Fewer and Better Medical Schools." There immediately began an investigation of every medical school of the country and through the power of publicity in the Journal every one of them was brought into the light of day and if they were well conducted the public and profession knew it and if they were poorly conducted they had to feel the urge to reform or else consolidate with some competitive school. Then came the cooperation of the Carnegie Foundation in a tour of inspection of the medical colleges of the country. After a few years the 166 schools of the land were reduced to less than 80 and every one of them was raised to a uniform standard of proficiency. As the hospitals were developed, this same council undertook the inspection and grading of these institutions that the public health might be the better preserved, faking combined with quackery obviated.

When the American Medical Association saw what could be done by publicity in the domain of education they turned their attention to the accurate and scientific study of drugs through a department called the Council of Pharmacy and Chemistry. There was established in Chicago a thoroughly equipped laboratory where all drugs and chemicals might be carefully studied that the imperfect and adulterated might be made known to the public and profession.

Along with this has been the campaign against the innumerable nostrums and patent medicines that infested the world of healing in America for long decades. How well they did this may be judged by the fact that only a very few of the many hundreds that formerly existed are now found on the druggist's shelves.

That the medical world and the public have greatly benefitted by this reorganized and more powerful medical association is beyond question. Where before 1900 the membership of the American Medical Association numbered a few hundred and the meetings were attended by a few score today the active "fellows" reach over 40,000. The Journal grew from the old circulation of 12,000 to nearly 100,000. The assets of the organization have passed the million mark and its activities

cover almost every department of medicine.

Naturally the growth of such an institution as this would develop a group of medical politicians that have the narrow traits of all politicians and are to be criticized for their narrowness and viciously selfish policies.

It is to be hoped that the old spirit of unselfish devotion of our Kentucky doctor to the highest ideals of medicine will survive in all the efforts of this, the greatest and most powerful American association that he served so unselfishly through the active years of his life.

It may be stated in closing that some dissensions have arisen in the ranks of the medical men of our country and have led to the formation of several specialized medical organizations like the American College of Surgeons and others. The leaders in most of these cases became dissatisfied with the managers in the American Medical Association and furthermore, desired to have somewhat more selective membership akin to that found in the various Royal Colleges of England. However, in spite of troubles and dissensions the American Medical Association stands today the great leading organization of the American doctors and its place of high reputation, growth and prestige is very largely the result of the efforts of Dr. Joseph Nathaniel McCormack who back in 1879 decided to use his marvelous talents in the field of Preventive Medicine and succeeded beyond all expectations.

After studying such a character as Dr. McCormack one is convinced that his name should be enrolled among the great in American medicine, not as a practitioner, scientist or surgeon, but as a great organizer who perfected the plans in the great field of Sanitation and Public Health.

Prophylaxis of Measles.—Karelitz points out that in the evaluation of passive immunity to measles by the use of convalescent serum, immune adult blood or serum and, more recently, globulin, extracted either from human placentas or from immune adult blood serum, the dosage depends on the consideration of age, size and physical state of the exposed individual, the duration and intimacy of the exposure and the period that has elapsed since the first moment of the exposure. The age and period of exposure have been considered in most studies.

RADIOGRAPHY IN OBSTETRICS*

ROBERT P. BALL, M. D.

Chattanooga, Tennessee

Radiographic examination of the obstetric patient for diagnostic purposes, has been done since the early days of roentgenology. But due to technical difficulties the first radiographs were not very satisfactory. With the further development of tubes and screens and the use of the Potter-Buck diaphragm, good quality radiographs were obtainable.

These earlier examinations revealed the fetus in positive cases of suspected pregnancies, gross abnormalities of the fetus or the maternal pelvis, and the presence or absence of multiple pregnancies.

Later, attempts were made to measure the diameters of the pelvic and if possible the size of the fetal head. Some radiologists were very successful in obtaining accurate measurements but in most instances their technic was one that could rarely be used by others with a different type x-ray equipment. This situation gave rise to the origin of many methods of roentgen pelvimetry.

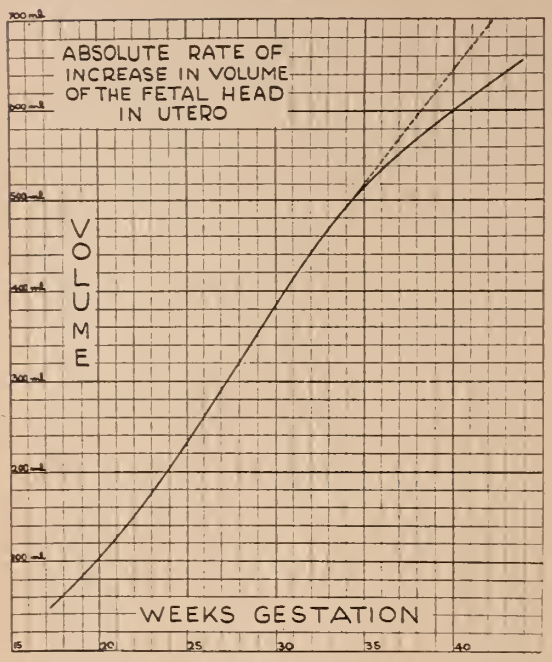
In any method it was necessary to correct for the magnification of the film image to obtain the actual size of the object rayed. The correction was most easily done by some type of geometrical calculation. If the radiologist did not readily think in geometrical terms, it is natural that he would seldom attempt pelvimetry by any of these methods. Simplified technics which did not require the use of mathematical computation in reading the film have been described. Now, the radiographic examination of the pregnant patient has become a routine or recommended procedure of many practitioners.

Radiography in obstetrics, as in other branches of medicine, can be used to obtain physiological data. The mechanism of labor is well shown in serial radiographs taken during the first and second stages of labor. The rate of growth (absolute) of the fetal cranium may be determined by taking serial films during the last twenty weeks of gestation.

In a preliminary report, RADIOLOGY, January, 1935, the author and Marchbanks described a new technic of pelvimetry and fetal cephalometry. This technic introduces the measurement of the perimeter of the radiographic image of the cranial skull of the fetus to ascertain its size. The size of the fetal head is stated in terms of volume and this can be compared to the volume capacity of pelvic diameters. The pelvic diameters measured are the antero-posterior of the in-

*Read before the Jefferson County Medical Society, May 9, 1935.

FIGURE I.



A graph plotted from radiographic date showing the rate of increase in volume of the fetal cranium in utero.

let (true conjugate) and the biischial spine.

From serial radiographs taken in the last half of gestation I have obtained the rate (absolute) of fetal head growth, Figure I. The curve shown in the graph is representative of the rate of growth in a small series including both white and colored races. The rate, regardless of size, is uniform so it can be expressed as one curve. That is, the curves of various cases are parallel on the graph. A larger series may indicate some change in the contour of the curve. There is one suggestion of a slight racial difference in this series. This curve may be used to determine the size of the fetal head during the weeks of pregnancy subsequent to a radiographic examination.

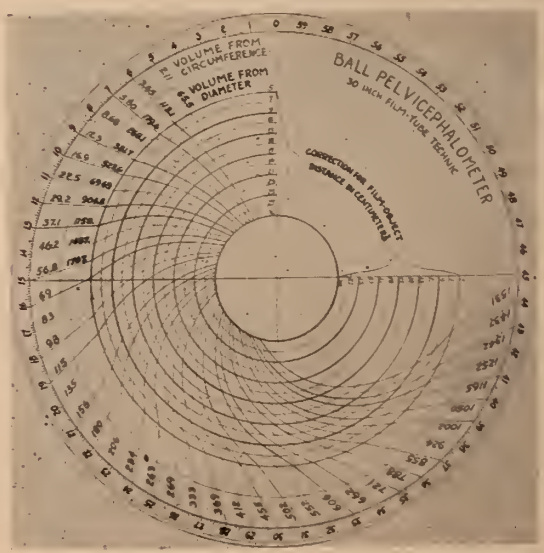
The mechanism of obstetrics is well demonstrated in serial radiographs taken at right angle views during the first and second stages of labor. They show the manner of engagement, synclitism, descent, rotation, head molding, restitution, etc.

In all previously published methods of pelvimetry and fetal cephalometry there has been a comparison between the cardinal diameters of the fetal skull and maternal pelvic inlet to establish the "passenger-passage" ratio. However, in cases where the fetal head was not in a lateral or anteroposterior position, or was in a breech presentation the results were not accurate. In this method all cases can be measured because two radiographs are made at right angles and the volume of the head is determined from the mean circumference of the skull image. In these radiographs two diameters of the pelvis, the true conjugate and biischial spine—are measured. The volume capacity of the smallest diameter is determined by considering its measurement to be the diameter of a sphere. The volume of a sphere of this diameter is compared with the volume of the fetal head. This readily shows any disproportion and suggests the molding (volume shift) necessary for delivery. In other words it is a volumetric rather than diametric comparison. These two diameters are selected for measurement because they are good anatomical points on the radiograph; their planes are parallel with the film during exposure; and one of them is the smallest pelvic diameter except in the funnel pelvis.

The magnification of the radiographic image is corrected by a calculator which is the dial of instrument used in making the measurement, Figure 2. In roentgen pelvimetry, with the anode-film distance constant there remains two variable factors, the size of the object and the distance of the object from the film. A rectangular chart for the correction of two variables is frequently used by engineers. I have plotted a circular chart to correct two variables. Using this chart as the dial of an instrument, linear measurements can be made from a radiographic image and easily corrected for magnification by determining from the films the object-film distance. No mathematical computation is necessary.

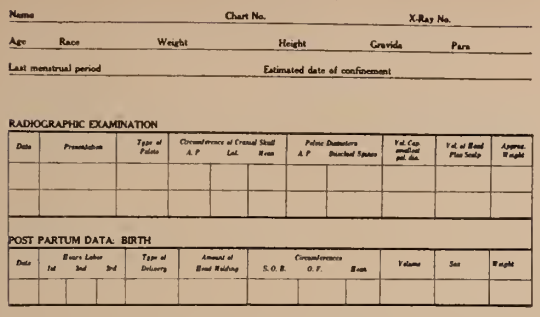
The object-film distance is determined by measuring arbitrary points in the path of the

FIGURE II.



A combined circular rule and two variable correction chart for correcting the magnification of the radiographic image

FIGURE III.



Name _____ Chart No. _____ X-Ray No. _____

Age _____ Race _____ Weight _____ Height _____ Gravida _____ Para _____

Last menstrual period _____ Estimated date of confinement _____

RADIOGRAPHIC EXAMINATION

Date	Presentation	Type of Pelvis	Circumference of Cranial Skull A. P.	Lat.	Mean	Pelvic Diameters A. P.	Diagonal Conjugate	Vol. Cap. amniotic sac. dia.	Vol. of Head Plus Scalp	Approx. Weight

POST PARTUM DATA: BIRTH

Date	Hours Labor 1st	2nd	3rd	Type of Delivery	Amount of Blood Welling	Circumference S. O. B.	O. F.	Mean	Volume	Sex	Weight

A form used by the author to collect data on pelvimetry and fetal cephalometry.

central ray, on the radiograph taken in right angle view.

The volume of the fetal cranium as distinguished from the fetal skull image, is determined by adding 2 cm. to the mean circumference, allow for the scalp. This number can be read from the table on the dial volume from circumference. Also the pelvic diameter in centimeters can be interpolated to volume capacity in milliliters by the use of the table on the dial volume from diameter.

Over two hundred cases have been personally examined by this method. Included in the group are six multiple pregnancies, ten caesarean sections, four breech and two neglected transverse presentations. Measurements of the fetal head were made directly after birth for the collection of data. The illustration Figure 3, shows the manner of radiographic reports and collecting data. The fetal head circumference was accurate to within 1 cm. in seventy-five per cent and within 2 cm. in the remaining cases. The pelvic measurements were checked upon cadavers and were accurate to within 3 millimeters.

Conclusion

The radiographic examination of the obstetric patient is recommended as a routine procedure about the estimated thirty-fifth week of gestation, in all primipara and other cases, when disproportion is suspected.

The use of radiographs in studying the mechanism of labor is demonstrated.

The value of radiography in physiology is illustrated by determining the rate (absolute) of increase in volume of the fetal skull in utero.

A calculator of particular value in roentgen pelvimetry is brought to your attention.

A method of fetal cephalometry is presented by which the perimeter rather than diameter of the cranial skull is measured to determine its size.

DISCUSSION

Edward Speidel: In private practice we are hampered, I think, by doing work of this kind, first of all, because in my estimation, an obstetrician alone cannot do it, it requires the co-operation of an expert radiologist, and in private practice especially, the bugbear in obstetrics always is the added cost of a baby, and we are hampered in that way. Fortunately in this Hospital, a teaching hospital associated with the University of Louisville, we have the opportunity, in order to clinch a diagnosis, of using X-rays for that purpose and it is a common procedure in our clinic and in our department, of making a diagnosis of an abnormal presentation by means of the X-ray, that is, a breech, or a transverse, or a multiple. We especially use the X-ray in doubtful cases of pelvic disproportion. We guide ourselves by a view of the picture; we get an estimate of the volume of the head as comparable to the outline of the entrance of the pelvis and the passage, and then, if we think the head will go through, subject the patient to a test of labor. A test of labor, as you know, subjects the mother and the baby to a certain amount of danger, because if we err in our judgment, and the patient has been subjected to labor for a number of additional hours, especially with a ruptured bag of waters, the patient is potentially infected, and the mortality and morbidity of a Cesarean section performed after such a delay is greater than if the Cesarean had been performed immediately. Of course any vaginal examination which we make, and even rectal examinations made in these instances, affect the results of the case.

Now, if this method that Dr. Ball describes is understandable to the ordinary individual, of which I consider myself one, I would be extremely pleased to have it explained to us so we can adopt it in this institution and have the members of the staff add it to our diagnostic examinations. I would appreciate it very much if he would go into a little more detail.

S. E. Johnson: Sufficiently accurate methods of radiopelvimetry have been developed in the past, notably stereopelvimetry and the Thoms method. Almost all methods that have been employed, however, have one or both of two serious faults. They have been too tedious and slow for general acceptance, or have failed to give information on the crucial point of the relative size of the fetal head as compared with the dimensions of the maternal pelvis. Dr. Ball's method appears to possess the special merit of furnishing the fetus-to-pelvis ratio with a high degree of accuracy, by a simple and quickly applied process. In my opinion Dr. Ball has made a valuable contribution to the use of X-ray in obstetrics.

W. T. McConnell: I want to thank Dr. Ball for this splendid demonstration of what will be

a practical method of determining this proportion, for volumetric calculation. Nothing like this so far as I know has been done before. If, however, one did not have access to Dr. Ball's apparatus, there is a simple system I have employed which will give very practical results in determining the relationship between the head and the passage, especially in head presentation. A flat plate is taken in the antero-posterior position, preferably with the long axis of the plate at right angles to the long axis of the mother, so that it will include both iliac crests. Then you measure in cms. on the plate the distance between the crests and the long diameter of the fetal head. You know the actual inter-crestal diameter and as the baby's head is about in the same plane as this diameter it is very easy to work out by proportion the size or the length of occipito-frontal diameter. For instance, if your intercrestal diameter measures 29 cm. and on the plate this measures 32, the occipito-frontal diameter measuring 15, the proportions would look like this: 29:32::X:15. The transverse inlet can be determined in the same way. Having used this system on several hundred cases and checking up on the size of the head after delivery, we have found that it is a workable plan, and the error has in no case ever been over a fraction of a cm.

Another workable rule is that if the long diameter of the unmolded head is greater than the transverse of the diameter of the inlet, you had better not give that patient too much of a test of labor. If, however, the occipito-frontal diameter is not more than the transverse inlet diameter, other things being equal, the head will come through.

J. C. Bell: I am very sorry that this Society cannot see the films that Dr. Ball has in his exhibit. I saw them in Memphis and again this afternoon and they are most excellent ones. As you know, it is impossible to project very satisfactorily films of this type.

As Dr. Rubel stated, I have used the method described by Thom for several years and find that it gives accurate information concerning the pelvic inlet and at times a fairly accurate idea of the size of the foetal skull. Dr. Ball, in his work, is able to give much more information concerning the measurements of the birth canal and his measurements of the foetal skull are accurate regardless of the position. For this reason I believe that his method will find much wider application than other methods heretofore described.

It is very difficult to describe a work of this type and the actual working of the method would seem to be quite complicated. This is not true for in practice the use of the method is extremely simple, the measurements themselves probably requiring considerably less than ten minutes in the average case.

I. T. Fugate: I had the pleasure of seeing Dr. Ball's demonstration at the Memphis meeting of the Radiological Society in December of last year. I was also present at Dr.Ball's presentation of his paper. His presentation was taken with enthusiasm by most of the men at the meeting and thought to be one of the most simple and most practical of the many methods of measurement of the child in utero and pelvic outlet of the mother, that had yet been brought forth.

The one drawback in all methods heretofore brought out has been the very technical mechanical computation of measurements. The method which Dr. Ball has brought out appears very simple, and with mechanically perfect films made of the pelvis in both the antero-posterior and lateral projections over the Bucky Diaphragm, is fairly simple, at the same time, a near perfect placing of your patient in direction of your X-ray tube is necessary, or else your measurements will be of no mechanical importance.

We are hoping that someone in Louisville will see their way clear at an early date to purchase one of these instruments with the charts such as to demonstrate its actual value. We feel that this will stimulate the profession to the necessity of actually knowing the exact dimensions and capacity of the fetal head as well as that of the pelvic outlet, therefore stimulating the profession to do better obstetrics, lowering the obstetrical mortality and probably reducing the number of Cesarean sections that are now being done.

Silas H. Starr: I enjoyed Doctor Ball's paper very much, and was very much impressed by the method of measurement. From what I have heard it appears to be more accurate than any other method of measurement, but besides all that, I really feel that when we take up one particular method of estimating whether a child can come through a pelvis we make a big mistake. I think we must remember that there are more factors than the size of the head and the size of the pelvis. At the time the patient goes into labor we are never able to estimate ahead of time how much molding we will have, and how strong contractions the patient will have, and we are not always able to estimate or know whether the head will flex sufficiently; all these things summed up are what enter into your method of treatment—whether the patient will deliver vaginally, or whether a Cesarean section will be necessary.

I do think this method is a valuable contribution, but I think it should be looked upon as any laboratory procedure is looked upon; that it must be supplemented or collaborated with the clinical data, and that we should not be too

enthusiastic about just one certain phase of our case.

R. P. Ball, (In closing): I thank you gentlemen for your very generous discussion. I particularly appreciate the remarks of Dr. Starr, who has emphasized the fact that the handling of the obstetrical patient is a many sided problem. It seems to me that in border line cases the exact knowledge of the relationship in size between the fetal head and the pelvic diameters is of the utmost importance. I am glad to find a method which has proved very reliable and accurate in all cases and one which does not require any complicated procedure.

This afternoon I had the pleasure of personally demonstrating to a number of the local radiologists, the minute detail of this method and to those interested in further detail I would refer you to one of the radiologists of the city.

It is a very pertinent question in some cases, near term, as to how much further increase in size of the fetus might be expected. This graph shown you will, I believe, be of great value in answering that question. I was particularly glad to have Dr. Johnson compare this data with that reported in the American Journal of Anatomy.

HYPOTHYROIDISM WITHOUT MYXOEDEMA*

CARL H. FORTUNE, M.D.

Lexington

Hypothyroidism is not a condition which causes death or even disability, but it does rob life of much of its zest and makes the performance of ordinary tasks an almost impossible effort. The result is loss of efficiency in business and professional life and the production of misfits in domestic relationships. Therapeutically it is one of the most gratifying condition in all the practice of medicine. Accurate diagnosis, followed by rational and adequate treatment is very apt to give improvement and often gives striking results. The patients are almost uniformly grateful and their statements are the index to the propriety of the diagnosis and treatment.

During the past few years much has been written concerning thyroid deficiency without myxoedema, but it is still overlooked by many and its very existence is questioned by some. The comparative indifference of the practicing physician toward this condition is influenced largely by the scant attention which it has received from the writers of standard texts on the practice of medicine. The typical picture of myxoedema set forth in these works is far afield from the clinical appearance of the hypothyroid patient which I aim to present in this paper. In outlining this conception I shall draw freely on the ideas given in the voluminous literature, but I do not intend to review it in detail. The basis for my personal opinions, however, is gained from a survey of one hundred cases from the files of the Lexington Clinic, and my conclusions are the result of this study.

Among the cases which I studied 89 are females and 11 males. The age range is from 13 to 72 years, 27 being over 40 and 72 under that age, (in one case the age was not stated). Thus, in my experience this is a condition found at all periods of life, but overwhelmingly preponderant among women under 40. It is, of course, understood that the age referred to is the time at which the diagnosis was made, since the time of onset of hypothyroidism is impossible to determine with any degree of accuracy from history. By constructing a graph of age incidence in 5 year periods it is found that there is a peak between the ages of 16 and 20, with a slight but steady decline up to 35 after which there is a sharp rise to the highest peak of all in the 36 to 40 period. After this there is a sharp drop and only occasional cases are seen at the more advanced ages. The first of these peaks is shortly following puberty and might be anticipated in view of the changes which the endocrine system undergoes at that time. The second peak comes toward the end of the child-bearing period in women and is likely contributed to by the influence of pregnancy on the glands of internal secretion.

In discussing the symptoms and signs of hypothyroidism I will follow the order in which these findings were presenting complaints when the patient was examined. It will be readily seen that there is no possibility of statistical accuracy in such a study. Certain symptoms are brought out only by direct question in many instances and what is recorded on the chart is to a considerable extent due to the method of approach of the examiner. Considered together, however, they give a fair picture of the symptomatology of hypothyroidism. The diagnosis must, in most cases, be suggested by the history and confirmed by physical examination and laboratory procedures.

By far the most characteristic complaint is fatigue. This differs from the fatigue

*From the Medical Section of The Lexington Clinic and read before the Seventh District Meeting, Somerset, May 9, 1935.

of the neurotic in that the patient is unwilling to accept it. He is irked by his lack of energy. He does his tasks by great effort and drives himself because of his unwillingness to be considered inferior. Often at night he is too tired to read or join in any social activity and yet unable to sleep. This may be associated with a feeling of extreme weakness or even a general feeling of sickness. As readily seen, this may lead to inefficiency in business, lack of advancement in school work, or domestic discord. A greater or less degree of this fatigue was the presenting complaint in well over half of my cases.

Next in frequency of occurence and, I believe, closely allied to fatigue is nervousness. This does not seem to be due directly to the hypothyroid state because most of the patients say that they become nervous when tired. However, it may be severe enough to simulate the nervousness of hypothyroidism. Three of my cases had a marked tremor which improved under thyroid medication. In some instances the differentiation between a hypothyroid and a hyperthyroid state may be difficult to make without a basal metabolic determination, a point which has been emphasized by O. P. Kimball. Insomnia is not uncommon and many of these people sleep normally after adequate thyroid therapy. Others are highly emotional and I have seen one instance of a definite psychosis which improved under thyroid treatment. Palpitation, tingling in hands and feet, and other complaints ordinarily associated with neurotic states are not uncommon. This type of patient is radically different from the complacent, placid, sluggish individual described in text books as typical of hypothyroidism, and much more of a problem to himself and his associates.

Dryness of the skin is a condition commonly found in thyroid deficiency. It is, however, seldom the presenting complaint. The patient may have had the condition all his life and he has become used to it. It is often noted on physical examination and a direct question may bring out that, particularly in winter, his skin is dry and scaly. Similarly sensitivity to cold weather is very frequently present but seldom a presenting symptom. The hypothyroid individual expects to "freeze all winter" and he accepts it as one of the hardships of life. Questioning often brings out, however, that he uses more bed covering than other members of the family and likes the room kept excessively warm in winter. It is interesting to note that some of these people complain of suffering almost equally from the heat in summer. I believe that this is due to the decreased sweating which is commonly present.

Striking departure from normal weight is not regularly found. In 67 per cent of my patients there was no significant variation from the average. Of the others 23 per cent were overweight, but only 14 per cent could be classed as obese. In contrast 10 per cent were definitely underweight and many of these gained under thyroid medication. Louis M. Warfield found in his series of patients that 25 per cent were underweight, 25 per cent overweight and 50 per cent showed no unusual variation from the average. This seems to be to a large extent associated with food intake. Many hypothyroid individuals have very poor appetite, although seldom do they complain of it since they have never eaten normally. Since body weight is a direct result of the balance between food metabolized and energy requirements, it follows logically that some may actually not take in enough food to maintain proper weight whereas others eat to excess and become fat. Attempts to reduce weight by giving thyroid are apt to be disappointing. The thyroid increases the appetite and consequently unless the diet is controlled little or nothing is accomplished. If hypothyroidism is present with obesity, the hypothyroidism should be treated but the obesity must be considered as a complicating factor and proper dietary control must be instituted. To give thyroid for the sole purpose of reducing weight is not only hazardous but is quite apt to fail to accomplish the purpose desired.

Hypothyroid individuals often complain of constipation and headache and there is probably an association between the two complaints. However, both conditions are so common in people with normal thyroid function that it is difficult to determine what part the thyroid abnormality plays in their etiology. Where relief of either or both of these conditions follows treatment with thyroid substance, so often other therapeutic measures have been used that any opinion as to the part played by the thyroid is hazardous. Certain cases of chronic constipation are, however, relieved by thyroid alone, and some patients who have taken laxatives for years are able to dispense with such drugs after adequate treatment of a hypothyroid state. A patient has been recently observed who was promptly relieved of headaches associated with constipation which previous to

the institution of thyroid therapy had occured about every three days and were severe enough to incapacitate him for work.

Considerable attention has been given in the literature to arthritic pains associated with hypothyroidism and relieved or benefitted by thyroid medication. The theory is that reduced circulation to the joint is responsible for the occurence of these pains. F. C. Hall and R. T. Monroe report that 49 per cent of the cases of hypertrophic arthritis with a low basal metabolic rate and 16 per cent of the cases of atrophic arthritis are benefitted by giving thyroid. In my own experience relatively few examples of this association have been seen and my results as far as concerns the relief of arthritic symptoms have been disappointing.

The typical findings of myxoedema are mentioned only to emphasize their rarity in this type of patient. Mental dullness was not noted among my patients. Mask-like facies; dry, cracked nails; localized fat deposits: puffiness of the eyes: increase in size of the arms and legs; abdominal fatty apron were seen only in isolated instances. In short, the appearance of the mildly hypothyroid patient does not differ strikingly from that of his fellow man.

The relationship of thyroid underactivity to female sexual activity has purposely been omitted from the above discussion. This phase introduces the entire problem of the interrelation of the various endocrine glands, particularly the anterior lobe of the pituitary. The recently reported work of Leo Loeb shows quite definitely the close linking of the pituitary and the thyroid and indicates that a pituitary hormone is very important in the control of thyroid function. The importance of the pituitary in sexual physiology has also been demonstrated and it seems quite likely that abnormalties of sexual function are usually due to variations in the pituitary hormones. The most common complaints of this type presented by hypothyroid women are various abnormalities of menstruation, scanty and infrequent menses, even amenorrhea, but also menorrhagia and increased menstrual frequency. Adequate thyroid medication will often give complete relief, probably through an entirely indirect action on the rest of the endocrine system. Thyroid therapy is the simplest and best understood form of endocrine treatment and its use seems indicated before trying the more complicated and expensive female sex hormone treatment, if the patient is definitely hypothyroid. Certainly it should be given a trial before resorting to gynecologic surgery.

The relationship of hypothyroidism to successful pregnancy deserves emphasis. Thyroid imbalance, either hyperthyroidism or hypothyroidism, is often associated with sterility. Habitual abortion is often seen in these patients. An obviously hypothyroid woman with a basal metabolism of -29 per cent gave a history of two previous abortions at the sixth month. She was placed on dessicated thyroid gland at the third month of pregnancy and has just recently delivered a normal full-term baby. It cannot be argued that thyroid substance is a cure for sterility and habitual abortion. Certain women will not be relieved by adequate treatment for their hypothyroid condition. Those who are benefitted are, however, a cause for much gratification.

Other sexual disturbances are often associated with hypothyroidism and improve under proper thyroid therapy. Notable examples are dysmenorrhea, frigidity and excessive nervousness associated with the menses. In two of my patients convulsive seizures resembling epilepsy were associated with each menstrual period. These patients were relieved when the hypothyroidism was treated. Again caution is advised, because the thyroid is probably only one of the factors in the situation and benefit can not be expected to uniformly follow treatment.

The diagnosis of hypothyroidism is, in my opinion, a clinical and not a laboratory problem. The symptoms and physical examination should suggest the diagnosis and the basal metabolic rate, while important, should be confirmatory. Some have held that a patient cannot be considered definitely hypothyroid unless the basal metabolic rate is below -25 per cent. Such a criterion would exclude the bulk of my cases. The range in my series was from -4 per cent to -29 per cent with the exception of one case which was -40 per cent. Some of those patients with a basal rate near normal show more marked symptoms than those with a more depressed rate and experience more relief from thyroid therapy. There are wide variations in basal metabolism in normal individuals and it is a fallacy to maintain that a given range of readings is normal and all outside that range is abnormal. If the clinical findings are those of hypothyroidism and the basal metabolic rate is at all depressed there is

justification for a trial of thyroid therapy.

It is most important that chronic disease, not related to the thyroid, which may lead to a lowering of the metabolism should be ruled out. For this reason a most careful general examination of the patient is indicated before administration of thyroid substance is contemplated. It is permissable under certain conditions to institute thyroid therapy without a determination of basal metabolic rate, but never without a careful history and physical examination. Finally the test of a correct diagnosis is a favorable response to treatment. If the patient does not improve under thyroid medication, it may be safely said that the symptoms are not due, or at least not entirely due, to thyroid deficiency.

In the giving of thyroid substance it is well to start with a small dosage, for instance ½ grain of the dried gland, and increase gradually at intervals of about one week, the increase each time being the same amount as the initial dose. The final dosage cannot be calculated from the basal metabolic rate and unpleasant effects such as nervousness, tachycardia and undue weight loss can be avoided by approaching the optimum dose gradually. Most patients will feel a certain amount of stimulation from each increase in thyroid which usually disappears to a certain extent in a few days, although it may persist longer. Unless this is recognized the physician may be tempted to stop increasing the drug before the optimum dosage is reached. There seems to be no advantage in trying to maintain the patient at a theoretically normal basal metabolic rate. It is probably safer to maintain the metabolism slightly below normal rather than above normal, and many patients feel better with the basal metabolic rate slightly low. The work of Leo Loeb, already referred to, indicates that an excess of thyroid exercises an inhibitory effect on the thyreotropic hormone of the pituitary and in this manner depresses thyroid activity. Loeb's work was done on animals in which there was a high degree of induced hyperthyroidism, but if the same holds true in mild degrees of induced hyperthyroidism, the physician should certainly avoid such a situation in treating patients already hypothyroid. As a rule, the thyroid dosage can be safely increased to the point of maximum improvement without toxic symptoms. Basal metabolic determinations from time to time are helpful and in certain cases where the response is not typical they may be practically necessary. Usually, however, they can be dispensed with and the patient's progress judged clinically.

The post-thyroidectomy hypothyroid patient presents a special problem. Most of these patients, if they were definitely hyperthyroid before operation, retain some of the symptoms. They tend to be nervous and excitable and readily develop tachycardia. All of these symptoms are apt to be exaggerated following each increase in thyroid dosage. Utmost care and patience is required to bring some of these patients up to the optimum level. Whereas the ordinary patient may be increased to his final dose in a period of weeks, months is usually required for the more difficult of these patients. The final results in most instances are however, quite satisfactory.

It is of utmost importance that the physician specify the brand of thyroid which he wishes the patient to use. At the present time there is no agreement among the manufacturers either in labelling or standardization of thyroid products. For example, 1 grain of Parke-Davis thyroid, labelled in terms of dried gland, is equivalent to 5 grains of Burroughs-Wellcome thyroid, labelled in terms of fresh gland. Even where the labelling is on the same basis there are wide variations and according to J. H. Means, 1 grain of Armour's product is equivalent to only two-thirds grain of Parke-Davis product. While there are a number of satisfactory products available, it is important that the physician decide on a brand and that he makes sure his patient gets that brand else his results will be variable.

Certain patients seem to be able to discontinue the thyroid medication after a time. Since the therapy is simply a substitution, it seems that these are not true cases of hypothyroidism. There is probably simply a temporary depression of the metabolism which disappears with the improvement in the patient's general health. If there is a true deficiency in thyroid activity the treatment has to be continued indefinitely. In view of this the patients usually prefer to take the thyroid in a single daily dose. While it may be desirable to uses divided doses while increases are being made, there seems to be no disadvantage to giving the full dose at one time during the day after the final amount has been reached. The patient is less likely to forget his medicine and the dosage is accordingly more uniform and the results more satisfactory.

I do not advance this as a cure for all under-par individuals. Unless the case is carefully studied and the diagnosis accurately made, disappointment is certain. If the patient does not respond to adequate dosage of thyroid, it is indisputable evidence that the diagnosis was wrong. While detection of this condition and its proper treatment may not save many lives, it will add greatly to the happiness of the patient and his immediate associates. For the physician, it will add to the pleasure of the practice of medicine.

INFANTILE PARALYSIS, REPORT OF CASE TREATED WITH ROSENOW SERUM*

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Report of a case of Anterior Polio-myelitis in A. H. C., male, 16 years old. This patient after intense exercise, received a pain in the back of his head, neck, and down the spine between the shoulder blades, which continued for many a day. There was heat, tenderness and pain of the spinal regions with rise of pulse 90 to 120, temperature 100 to 101, respiration 24 to 30. Pain also in left shoulder and left arm. Severe pain in cervical-upper dorsal regions. This tenderness, heat, and pain continued several weeks.

Dry cupping relieved the intense pain from time to time. Soporifics were given to cause rest and sleep. Elix. Iodo-Bromide of Calcium Comp. ounces 6, and Iodide of Potassium drams 2 were made into a solution and one dram was given three times a day, half an hour before each meal in water to cause absorption of the effusion in the affected spinal region. Aqua. Pep. Menth. ounces 6, Egotine drams 6, Tr. Belladonna drams 6 were mixed and made into a solution, and one dram was given at intervals of every four hours in water, to contract the over distended and congested blood vessels, relieve pain, edema, congestion, effusions and inflammation, reduce temperature, pulse, and respiration.

The patient also had impaired motion of the head, on rotation, extension and flexion, from pain in the cervical region and left shoulder, and impaired motion in left lower limb and foot in walking, advancing with the right foot, dragging the left foot and leg.

Within two weeks there was paralysis of motion in left arm, and forearm, hand and fingers, thigh, leg and foot. And within three weeks there was paralysis of motion in the right arm, thigh, leg and foot. Patient had to be turned every two to four hours with a sheet by the nurses, and posture changed as indicated. There was no paralysis of sensations in the affected parts. The only motions the patient had were impaired flexion, rotation and extension of the head.

Local treatment, dry cupping over cervical, dorsal and scapular regions, to relieve pain, congestion, effusion, and inflammation, daily, or every other day. The upper limbs were placed in padded metallic extension splints as in fractures, and the lower limbs were also placed in padded metallic extension splints, to improve the circulation and general nutrition of the limbs and prevent atrophy. The splints were removed every third day, and patient's limbs and trunks bathed and given gentle massage with alcohol, and then anointed with vaseline to cleanse and cause the skin to function.

At the end of three weeks the "Dr. Rosenow Serum" of the Mayo Institute of Rochester, Minn., was obtained from the Kentucky State Board of Health, through Drs. A. T. McCormack and Lillian South. A three ounce solution was obtained and given hypodermically, four drams into the abdominal wall at 10 a. m., and another four drams was given at 2 p. m. and 11 p. m. The next day the "Rosenow Serum" was repeated at about the same intervals. Forty-eight hours after the last dose of serum was given, the patient could move his left thumb. The next twenty-four hours his index finger, then motion in the other fingers and hand returned. Then pronation, supination, with flexion and extension of hand on the wrist, then flexion and extension of the arm, and forearm from the shoulders. Within another week there was motion of the toes in the left foot, then flexion and extension of the left foot on leg, then flexion and extension of the limb at the knee joint, then rotation, flexion, and extension of the left lower limb at the hip joint. A gradual improvement from day to day.

Before paralysis was cured in the left side, (left hemiplegia), improvement first began in the thumb and fingers of the right hand, and then in the muscles of wrist and forearms, then arm and shoulder and the right hemiplegia gradually disappeared from day to day and cured in right foot, leg and thigh.

When the paralysis, left and right hemiplegia was relieved or cured, there occurred one or more times per day, severe irritation, agitations, contractions, and relaxations or, spasms of one or more groups of muscles, in one or both upper and lower limbs with violent contortions and severe pains. Hypodermics of morphine or, phosphate of codeine

*Read before the Lincoln County Medical Society.

had to be given to ease pain and cause rest and sleep.

After the expiration of three months from the beginning of the "Infantile Paralysis," the mild Faradic current was applied from cervical region, to the hands and feet, ten to twenty minutes daily for about six weeks, to control nervous and muscular irritation, and to improve the functions and nutrition of the body.

Tablets of Parathyroid of Calcium gr. 1-8, were given about three times a day, to improve function and nutrition of the muscles, nerve centers, and blood, and agitation of the muscles from impaired nutrition. Fellows Compound Syrup of Hypophosphites was prescribed as a nerve, muscle, and blood tonic in the latter weeks of treatment, to cure anemia, low blood pressure, and to increase the hemoglobin, and impaired nutrition. Chloral Hydrate grs. 10, and Bromides Potash grs. 20 had a wonderful effect in controlling the jactations and spasms of the groups of muscles in the upper and lower limbs.

Massage in a mild stimulating way was given daily until patient was cured. Microscoping and chemical examinations of blood and urine and hemoglobin tests were made from time to time until he was cured. Patient during the latter half of the six months treatment, in good pleasant weather was placed in an invalid wheel chair and kept in the sunshine outdoors daily. The lower limbs took longer time to recover from the paralysis than the upper limbs and had feeble action for a few weeks. The patient used crutches when he began to walk for a few weeks, then dispensed with crutches and used a walking cane for several weeks.

In six months the patient was sound and well, and returned to finish two years in high school and now is a prosperous business man and well. Strong and prosperous in a financial way.

The "Rosenow Serum" for the cure of Infantile Paralysis was the great therapeutic factor in the arrest of the disase and cure of A. H. C. He is one patient who owes his life to the skill and achievement of Dr. Rosenow and his anti-polio paralytic serum.

Relation of Thymus Gland to Surgical Risk.—According to Henson, children who have had thymic symptoms or who show definite or indefinite evidence of thymic enlargement are better not operated on but, if operation is essential, should have a course of roentgen therapy previous to that procedure.

SYMPOSIUM ON DIABETES

COMPLICATIONS OF DIABETES*

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A new story is being written concerning diabetic complications. There is a new conception of the subject; a new appreciation of its importance; and a new approach to its therapy.

Ten years ago every speaker and writer on the subject of complications in diabetes emphasized coma as the most important and serious happening in this common disease. Insulin and its judicious use has changed all this. It is now recognized that cardio-vascular disease is the most important complication for the diabetic, and his major cause of death.

Cardiovascular disease—The sequence of events seems to be something like this. First there is the diabetic "state" in the patient; then there is an increased cholesterolemia; then an increase in calcium and atheroma formation with arterio-sclerosis; then oftimes gangrene formation and finally heart (coronary and myocardial) involvement and failure. In brief, diabetes causes a type of arterio-sclerosis, and while arterio-sclerosis cannot cause diabetes, it can aggravate the diabetic "state." Truly, "life begins to end at forty" for these individuals, although they are at their worst about sixty, especially women. The endocrines seem to exert their effect, especially the thyroid (i.e., hyperthyroidism usually means hypocholesterolemia). As to distribution, the heart, aorta and legs seem most affected by the sclerotic processes, while the kidney, brain, and pan-pancreas are much less so. This brings up two interesting points; namely, the relatively few kidney failures in diabetes, and also the small effect which arterio-sclerosis about the Islands of Langerhans has on the production of insulin. One investigator believes that arterio-sclerosis is most damaging to the diabetic because it prevents the pancreas from receiving the impulse to secrete insulin.

For a discussion of the degenerative and diffuse hyperplastic types of arterio-sclerosis which the diabetic has, as well as a summary on the Cardiovascular status of Diabetics, you are referred to Friedmans article in the March, 1935 issue of the Archives of Internal Medicine. Concern-

*Read before the Staff Meeting of the Norton Memorial Infirmary, May 15, 1935.

ing cholesterol, it is interesting to note that today the average patient with diabetes when first seen has 200 mgm. of cholesterol per 100 cc. of plasma, whereas five years ago this figure was 300 (normal upper limits accepted as 180-230). A cholesterolemia of 400 usually means a basal metabolic rate of minus 30, and this is bad, especially in a diabetic child.

In treatment, the big word is prevention. A high carbohydrate, low caloric diet reduces cholesterol and also reduces obesity—a consummation devoutly to be wished for in most diabetics. Care of the feet according to the dicta of Joslin is also sound prophylaxis. Judicious use of insulin is still a sheet anchor in this condition, and when the leg is involved, dry heat is of importance, especially in gangrene. Recently however, new tools have been added to our armamentarium. I speak of the Pavaex machine of Herrmann or the apparatus of Landis and Hitzrot. For increasing the circulation in an extremity these machines are little short of miraculous. Iontophoresis with the use of "Mecholyl" is very helpful, particularly when the Pavaex or other specialized machine is not available. Finally, the above means failing in prevention and treatment, high amputation should be done reasonably early in the controlled diabetic.

Coma: Second in importance and often far more dramatic among the complications of diabetes is coma. In pre-insulin days, death from diabetic coma should be expected within 72 hours after its onset. Nowadays coma is less frequently encountered, and its control more sure. Causation is an old story; fats normally "burning in the fire of carbohydrate" to carbondioxide and water, smolder along the way and persist as the dangerous Beta oxybutyric, diacetic acid and acetone; thus acidosis and coma. Again we find the circulation involved with collapse due to cardiac failure.

Predisposing to this calamity is the diabetic state. Exciting causes (varying in kind and degree with different individuals) are likely to be dietary indiscretions, infections, injuries and emotional upsets. One may recognize impending coma by several chains of signs and symptoms: listlessness, drowsiness, nausea and fatiguability, or restlessness, excitability, vertigo and tinnitus. Hyperpnea (the Kurshmal type of breathing), acetone on breath, soft eye balls, anhydremia (dry skin and tongue) and an increase in leucocytes nearly always present themselves. Scanty urine (obtained by catheter, if necessary) containing albumen, casts and acetone, from one not taking salicylates, is significant. It is always of value to titrate the acidity of a 24-hour specimen, estimate the ammonia, and determine the blood plasma CO_2. (This, normally at 55 or above, indicates acidosis at 40, and coma at 20 Vol. percent).

Differential diagnosis is important from cerebral hemorrhage, uremia and hyperinsulinism. Just here may I pause to remark that all diabetics should carry an indentification card at all times, and those using insulin, sugar or candy. In uremia, it is helpful to remember that nitrogenous figures will be higher and CO_2 lower than those found in diabetic coma, when blood chemistry is determined.

Insulin and fluids are the features par excellence in treatment. It is well to keep in mind the simple rule that a patient whose urine (obtained by catheter or otherwise) boils green with Benedicts solution may be given five units of insulin; yellow, 10 to 15 units; orange 15 to 20 units; and red 25 or more. Ringers solution is one of the best fluids to be given by vein. The use of soda bicarbonate is still a muchly mooted point, but the use of general supportive measures is an accepted practice. This is particularly true of the heart and intestinal tract.

Other complications by systems: Brevity demands nothing more than the mere mention of these, with a comment thrown in here and there.

Special Senses: Eye: Retinitis; Cataract; Optic neuritis; Iritis; and premature presbyopia. Ear: Furunculosis of canal; occasionally acute otitis media.

Skin: Boils and carbuncles represent a staphylococcic infection in the diabetic, usually about the neck, back, and buttock. Boils are seen in the milder and obese cases while carbuncles are found usually in the severe and debilitated group. Multiple abscesses may be encountered, and these infections often precipitate another complication, coma.

Pruritis, when general, usually means a toxic state, while locally it results from irritation and growth of fungi. Other familiar names and skin conditions in the diabetic are: Cellulitis, Ulceration, Herpes Zoster, Urticaria, Dermatitis, Herpetaformis, Paronychia Diabetica, Gangrena Diabetica, Purpura (simplex and hemorrhagica), Diabetic Bronze (Hemachromatosis), and Xanthoma Diabeticorum (Lipemia). These titles are self explanatory,

but their number is so great that it seems like all skin conditions might be divided into two classes, (1) "Tis Diabetic," or (2) "Taint Diabetic."

Gastro-Intestinal: Included here are aphthous stomatitis; gingivitis; glossitis; constipation and diarrhea, and steatorrhea. Gall bladder disease is often simulated, and the surgeon must be vigilant constantly in dealing with the diabetic.

Respiratory: Here we have a smaller group including acute pneumonia; abscess and tuberculosis. Interestingly enough, increase in the tuberculous process decreases glycosuria.

Nervous system: Peripheral neuritis, which may be multiple, is very important, as it may explain many of the above skin lesions. The neuritis is manifest as numbness, tingling, cramping, paresthesias, hyperesthesias, pain, et cetera. "Diabetic Tabes" is common with its lightning pain, lost knee jerks, and lost extensor foot action giving the characteristic steppage gait. Hemiplegias and paraplegias come with cerebral vascular disease, as mentioned earlier in this paper. Chief of the mental complications is coma, and general paresis is simulated at times.

Reproductive system: Amenorrhea may be exhibited by the diabetic child and atrophy of the uterus is not uncommon. Conception is more difficult in the diabetic adult, and if conception does take place about one third of these mothers abort. If the child is carried to term and is born alive however, it will not be a diabetic, when entrance is made into the world.

If most of the above complications in diabetes are to be avoided, it will be necessary (to paraphrase a famous expression) to diagnose well, and treat well so that the patient will get well.

Bacteriophage Therapy.—The experience of Lampert and his associates with bacteriophage in the treatment of certain types of infections, chiefly carbuncles, furunculosis and hand infections, is based on approximately 1,000 cases and has resulted in more than 90 per cent of successes. They consider their successful results to be due in large measure to the technic of application, which is based on direct contact of the bacteriophage with the infected tissues by means of generous daily applications. The prompt relief of pain and the brief duration of treatment by bacteriophage therapy, as compared with the duration of treatment by other measures, are noteworthy clinical facts. The method does no harm in cases in which it does not succeed.

DIAGNOSIS OF DIABETES*

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Diabetes is a disease characterized by an excretion of sugar in the urine, and an increase of blood sugar over the normal; it is caused by diseased pancreas, particularly of the island's of Langerhans, which furnishes a secretion known as insulin which promotes a conversion of glucose into glycogen which is, in turn, stored in the liver and muscles, and also influences the conversion of proteins and fat into sugar.

There was mention of a disease in Egyptian Medical Compilation before the time of Moses, in which one of the symptoms was the frequent passing of large quantities of urine. This may have been diabetes. Reference has been made in medical treatises in the intervening years, but we did not know it was definitely diabetes until 1675 when Willis, an Englishman, spoke of the urine as being "wonderfully sweet, as if imbued with honey," and Matthew Dobson, in 1775 proved the presence of sugar in diabetic's urine and observed that the blood serum was sweet. In 1778, Thomas Cowley gave the first description we have of a fatal case of diabetes with abnormal changes in the pancreas. It was Opie in 1901 who proved that the real seat of the disease to be in the island's of Langerhans. Drs. Frederick Banting & Best in 1921 conceived the correct idea of making an active extract of the island's of Langerhans.

Etiology: Primary or Determining Cause: The direct cause or causes of diabetes are unknown. Injury may leave the pancreas subject to further damage, but overeating, obesity, or repeated minor infections may reveal the underlying conditions months or years after the initial infection has subsided.

The various endocrine glands seem to play a part, especially the thyroid, suprarenal and pituitary glands. Thyroid secretion is known to inhibit insulin action; hyperthyroidism aggravates the diabetes, while lessening of the signs of diabetes follows thyroidectomy. Epinephrin tends to neutralize the effect of insulin. Cortical tumors of the suprarenal gland are known to cause diabetes, and, experimentally, removal of one suprarenal gland alleviates moderately severe diabetes.

*Read before the Norton Memorial Infirmary Staff Meeting, May 15, 1935.

Predisposing Causes: Certain abnormalities precede the development of diabetes mellitus in a high percent of cases. It is not known how these influences operate except that in some way they injure the island's of Langerhans. Between 75 and 85% of the patients over 40 years of age who become diabetic are overweight. The tolerance of the diabetic is influenced by changes in weight; that is to say, a gain in weight causes loss of tolerance and a loss of weight due to diet restriction, a gain in tolerance. Thus, obesity increases the functional burden of the pancreas, because the tolerance metabolism in the obese is above normal. It is a predisposition to diabetes to be inheritable. Between 10 and 20 percent of diabetics give a family history of the disease, but if overweight and infections are prevented the inherited tendency may never assert itself. The question comes up whether or not a diabetic should marry. It is felt that 2 diabetics should not marry. It is alright to advise marriage if one of the contracting parties is free from and has no family history of diabetes.

Infection: Allen states that infection is the primary cause of diabetes—it may be the exciting cause. It is common to recognize diabetes during or shortly after acute infections. Injury to the pancreas by tumors may produce diabetes. A stone blocking the pancreatic duct has been known to precipitate diabetes. Arteriosclerosis may prevent normal absorption of insulin from apparently healthy island's of Langerhans and may account for a mild case of diabetes. Pregnancy imposes a functional burden on the pancreatic island.

Incidence of Diabetes: Joslin, Dublin and Marks, in the American Journal of Medical Science, in 1934, estimate that there are between 300,000 and 400,000 diabetics in the United States, and that, according to statistics, 2,500,000 now living may be expected to succumb ultimately to diabetes. The Jewish race is prone to become diabetic after middle life, which may be due to the tendency of the adult Jew to become overweight and neglect physical exercise.

Age: Diabetes may develop at any age, but the diabetic zone is usually in the 4th, 5th and 6th decades.

Sex: Is more prevalent among females than males.

Pathology: On examining the pancreas, one finds—a hydropic degeneration, which is thought to be due to a state of fatigue because of the abnormal demands; diminution of the number of islands; hyalinization; fibrosis. Other organs may show secondary changes. The glycogen of the liver is greatly reduced or absent. The glycogen in the muscles is depleted, which is also true in the skin. The myocardium is excepted. Arteriosclerosis may be generalized or local. The arteries of the feet or legs are particularly affected by atheromatous changes. Coronary artery disease is common.

Symptoms: Many diabetics have no symptoms, or so slight, that the patient is unaware of the gravity of his condition and the disease is recognized accidentally, as by an examination for life insurance. The usual symptoms are—loss of weight, abnormal increase of appetite, increased thirst, passage of large quantities of urine, backache, general weakness, rheumatic-like pains over the body, and skin infections. I shall take them up a bit more in detail. Loss of weight is due to food loss. Sugar is lost in the urine, ketone bodies are excreted in varying quantities and as the water loss becomes greater ketosis becomes more intense. Thus, the untreated diabetic who is losing weight is losing his pancreatic reserve. Thirst is usually quite distressing and much water may fail to quench it. The backache, which so many diabetics have may be due to distention of the kidney capsule. The polyphagia, or increased appetite is a compensatory effort to replace the lost nourishment. The general weakness is due to the loss of food in the form of sugar and acetone bodies.

The first signs of diabetes may be in the form of skin symptoms, such as—carbuncles, boils, intense itching, especially around the genitalia, and eczema. Sexual impotence is sometimes the first symptom. On examining, one may find signs of arterial disease especially in the extremities, defects of vision, such as, diabetic cataract, diabetic retinitis and softening of the eyeballs, as in coma.

Diabetes Mellitus in children is usually severe and unlike the adult diabetes usually doesn't give a history of overweight, but are usually taller than normal. It is said that diabetes affects children of the better class with greater frequency than those in the poorer class, as the latter tends to be less pampered, has less sweets and the foods are of the more wholesome variety. At an early age they are forced to earn a livelihood by physical rather than mental effort. Diabetic children are in greater immediate potential danger than adults—from ketosis.

Diabetes Mellitus in the elderly is usually much milder in contrast to that in children. The progress of the disease is slower. They are usually overweight or have been in the past, and respond well to treatment.

Laboratory Studies: The most common finding is glycosuria which may vary from a single trace appearing in only one specimen to heavy reactions appearing in all voidings. The Specific Gravity is proportionately higher with increasing sugar. The specimen is usually pale with a Specific Gravity above 1.030. The volume is increased—ranging from 1½ qt. to several gallons in the 24 hrs. Examination of the 24 hr. collection of urine enables quantitative estimation of the sugar excreted. Of the single specimen the one most likely to contain sugar is the one voided 3 to 5 hrs. after the biggest meal of the day. Glycosuria occurs when the blood sugar exceeds 0.15 percent ordinarily, but this renal threshold may vary in different individuals, as in the older diabetics who may have a renal threshold from 0.18 percent to 0.25 percent.

Benedict's or Fehling's solutions are used to make the test. Sugar may be found in the urine without there being an increased blood sugar—it causes no symptoms or inconvenience to the patient and is not affected by diet or insulin. This is what is known as Renal Glycosuria. If there is any doubt, the glucose tolerance test will be of aid in determining a true diabetic condition from one of Renal Glycosuria.

Ketonuria, or the finding of increasing amounts of acetone, aceto-acetic acid, and beta-oxybutric acid in the urine are detectable signs of an impending ketosis and coma.

Blood: The normal blood sugar ranges from 80 to 120 miligrams per 100 cc. of blood. For some, the reading may be higher or lower. A fasting blood sugar above this amount is usually due to diabetes. A knowledge of the blood sugar and the body weight is of special significance in summing up the degree of diabetes. A persisted high blood sugar taken on fasting in an underweight person is indicative of a severe diabetes, while a fat person who has never taken insulin, with a moderately elevated blood sugar, is usually a mild diabetic.

DIET AND INSULIN*

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Those of us who have had experience in the treatment of diabetes only during the past ten or twelve years have based our procedure almost entirely upon the newer concept of the problem which has resulted from the discovery of insulin. While the principle of feeding the diabetic remains fundamentally the same, still our newer practice must appear shallow and easy to those older men who wrestled with the problem of diabetes with diet alone. However, insulin is here to stay until something better or curative means is discovered and we must build upon it as one of our chief foundations.

Insulin has provided principally the following safeguards:

(1) The status of the mild diabetic is little changed. The usual dietary regulations are followed and he does not use insulin. Approximately 50 percent of the diabetics fall in this class.

(2) Moderately severe diabetics may enjoy a well balanced diet.

(3) Severe diabetics may have a sufficient variety and amount of food to sustain life and usually to maintain them for duties of their occupation.

(4) Insulin provides some promise of improvement. We are continually able to decrease or discontinue insulin in a fair percentage of patients treated. This so far as we know results from a definite recuperative power of the diseased pancreas.

(5) Treatment of acidosis and coma is rendered far more simple and tremendously more hopeful.

(6) Intercurrent infections, surgery, cardiac crisis, nervous and physical strain can be endured with infinitely less hazard.

The older conception that diabetes disturbed the metabolism of carbohydrates only is now held to be erroneous. The disease is an inability to metabolize all foods, but principally the carbohydrates. There should be two fundamental principles as a guide:

(1) The smaller amount of food the pancreas is called upon to metabolize, the better it can do the job.

(2) The smaller the body weight, the less will be the food required.

With a minimum body weight and a minimum of food for body maintenance

*Read before the Norton Memorial Infirmary Staff Meeting, May 15, 1935.

and work, if the pancreas cannot perform its work, insulin must be used as a reinforcement. When by careful observation, it is determined what is the proper caloric value for maintenance of a patient, the present tendency is to simplify his problem in two ways. First, a reasonably well balanced diet is provided which will not be too burdensome to him nor constantly provide a temptation to break over. It should be so arranged for instance that he may eat away from home without being embarrassed at his restrictions. If this provision requires that insulin be used, it is now generally considered better to place the patient on insulin than to try to maintain a moderately severe diabetic without it. Second, the patient is taught food values in household measures and is seldom required to actually weigh his daily ration. It seems better in the more severe cases to require that they weigh their food for a period of a few days every two or three months so that they keep more accurately to the household measurements. Short periods in the hospital with careful observation of food values help also to accomplish this and to more properly appraise the patient's progress.

There is a tendency toward the use of a moderately liberal amount of carbohydrate, say 1½ to 2 grams of carbohydrate to Kg. of body weight per day. In the construction of diet, most ordinary foods may be used so long as we appreciate their caloric values. Such excessively high carbohydrate foods as sugar, honey, pies, cakes and candy should be avoided and potatoes and bread used very sparingly. The majority of the fruits and vegetables, however, are of 10 or 5 per cent class and should be used freely.

This plan is usually a safe one to follow; the required calories are estimated upon the basis of 30 calories to Kilo of body weight, using for this slightly less than the standard weight for age and height. If engaged in labor, as much as 40 or possibly 45 calories per kilo is allowed. To secure this caloric value, allow 1 to 1½ or possibly 2 grams of carbohydrate per kilo per day. The remaining required food is made up of fat. Care must be exercised in selecting these foods to provide adequate vitamin and mineral values. If upon trial, the patient is not able to maintain this diet without insulin, it should be given. Beardwood has offered the following table for estimation of diets in children:

Age	2	4	6	8	12
Carbohydrate—					
(Kg. bdy. wt. diem)	10-12g.	7-9g.	4-6g.	3-5g.	2.5-3g.
Protein—	4.5g.	4g.	4g.	3g.	2.5g.
Calories	90	80	75	65	55

To guage the patient's tolerance for food, urinalysis is hardly sufficient. The urine may be sugar free for weeks while the blood sugar ranges high above normal, say 150 to 250 mg. per 100 cc. An occasional blood sugar seems necessary to the safe guidance of the patient. It must be noted, however, that particularly in older people, an absolutely normal blood sugar (80-120 mg. per 100 cc.) is not essential and sometimes even not best. These patients often actually seem to do better when carried at 130-170 mg.

The dose of insulin required is not easily determined and there appears to be no safe and accurate manner other than by trial. Roughly we may begin the dosage on the following basis:

10 units a day if blood sugar below 200.
20 units a day if between 200 and 250.
30 units a day if between 250 and 300.
40 units or more a day if above 300.

After trial, it is most likely that these values will have to be increased rather than decreased. It is not unusual, however, that the patient may improve his tolerance during treatment and the amount of insulin gradually decreased.

Insulin appears most effective in small doses. It is stated that 45 units in three doses will be as effective as 60 units as a single dose. In practice, if the daily dosage required is not above 20 units, it may be administered in a single dose, once daily, just before the principle meal. If above 20 units, it should be administered in two and better three separate doses. Customarily, it is given 20-30 minutes before the meal. Recent work on liver function and glycogen metabolism, however, indicates that this is not invariably the rule and a sort of tide of glucose metabolism between meals or during the night renders the administration of insulin best at these times. The site of injection is constantly varied, not only to avoid soreness in the flesh, but because repeated injections in one area frequently lead to scarring and sometimes to atrophy of the tissue.

The dosage of insulin, once established by no means remains constant or fixed. Infection, fatigue, or mental strain, pregnancy or lactation, sometimes increase greatly the amount required to keep an even balance.

Insulin reactions are extremely interest-

ing and treacherous. If neglected or confused for impending coma and treated by administration of large doses of insulin, death may result. Sweating, weakness, blurring of vision, excitability, sleep, mental instability are the principle signs although bizarre other manifestations have been seen. These reactions do not appear to depend wholly upon the hypoglycemia either. There is an occasional patient who will describe fairly typical insulin shocks when the blood sugar is as high as 250 mgm. Nervous or hysterical manifestations must be considered in these instances, but do not by any means provide a satisfactory explanation for the train of occurrences. It is probably safer to treat them as insulin reactions even in cases of some doubt.

By whatever means diet is figured, or the administration of insulin is governed, the three trustworthy guides are maintenance of a slightly sub-normal weight, occasionally check on blood sugar, and constant vigilance.

DIABETIC SURGERY*

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In the time remaining this evening we shall be able to discuss only the principles of diabetic surgery. Diabetic surgery is the term given to the study of surgical conditions with an associated diabetes and the surgical complications of diabetes. There are now a number of diseases the proper interpretation and treatment of which has been due to active cooperation of internist and surgeon. More notable among these are hyperthyroidism, diabetes, tumors of the central nervous system, diseases of the lung, gastric and duodenal ulcers. The results actually accrued to the patient from such cooperation in the treatment of diabetes mark an important milestone in the imposing record of medical achievements. It is of course possible to visualize individuals limiting themselves to the treatment of diabetes in which all phases of the condition are managed by one individual, but in the average medical center experience has taught us that the best results in the treatment of diabetes are obtained by active and intelligent cooperation between the physician and surgeon.

Diabetes is of importance to the surgeon both diagnostically and therapeutically. In surgical practice patients with sugar in the urine as determined by the Fehling's and Benedict's tests must be considered diabetic until proven otherwise and the surgeon who fails to examine the urine of every patient coming to his office and who fails to examine the urine of every patient upon whom he operates will be led to a number of preventable tragic incidents in his operative work. Furthermore diabetes as a possible cause is of importance to the surgeon in obscure conditions such as refractory ulcers, perforating ulcers, pruritus, chronic infections, obscure neuritides, recurrent infections, amenorrhea, otitis media, obstinate constipation simulating chronic intestinal obstruction, and non-union of wounds. In such conditions if the urine is free from sugar and the diagnosis still obscure it is important for the surgeon to have a determination of the sugar in the blood. If the fasting blood sugar is more than 140 mgms., or non-fasting blood sugar of 170 mgms. the patient should be considered as having diabetes.

Among the more important surgical conditions which may be associated with diabetes are fracture, hernia, hemorrhoids, hyperthyroidism, uterine fibroid, other benign tumors, cancer, acute appendicitis, cholecystitis, pancreatitis, duodenal and gastric ulcer. Under the surgical complications of diabetes are included gangrene, cellulitis, abscess, lymphangitis, phlebitis osteomyelitis furuncle, and carbuncle. The diagnosis of surgical conditions with an associated diabetes does not differ materially from their diagnosis in non-diabetics. The essential factor is to be cognizant of the presence or absence of diabetes and as previously stated this can be determined by routine examination of the urine in most cases and by analysis of the blood in the obscure cases. It is important too to keep in mind that most diabetics run a subnormal temperature and that elevation of one degree of fever in a diabetic represents a more serious condition than the same elevation in a non-diabetic. It is also necessary to remember that fever is never a symptom of uncomplicated diabetes and that fever with diabetes always means a complication. Furthermore the surgeon should remember that acidosis may cause a leucocytosis and frequently the symptoms of acidosis are abdominal pain with nausea and vomiting. Abdominal rigidity may be caused by acidosis and vomiting may be one of the first symptoms of im-

*Read before Norton Memorial Infirmary Staff Meeting, May 15, 1935.

pending coma. Many cases of diabetic acidosis have been mistakenly operated upon with the incorrect diagnosis of acute appendicitis, cholecystitis, perforated ulcer and acute pancreatitis. Diabetic coma may simulate meningitis, cerebral hemorrhage, or brain tumor. The correct diagnosis is often exceedingly difficult to make and it must be borne in mind too that the patient with diabetic acidosis may also have an acute gangrene appendicitis or the other named conditions. In arriving at the correct diagnosis a properly taken history is probably of more importance than any other one factor. The history of course in most cases must be obtained not from the patient but from a close relative or friend.

In surgical conditions associated with diabetes and not of an emergency nature almost 100 percent of them can be properly prepared by the internist so that they can withstand surgical operations with little more risk than the average non-diabetic. It is the practice of most surgeons and it is to be commended to leave the preparation of the patient to the internist and to withhold operation until he considers the patient to be in a satisfactory and safe condition. In diabetes accompanied by emergency surgical conditions such as acute appendicitis and fracture the modern dietetic and chemical treatment of diabetes is now so satisfactory that it is usually unnecessary to delay surgical treatment more than four to six hours. In acute infectious conditions relief of the infection by proper surgical measures permits the diabetes to be more readily controlled. Following successful operation for the relief of infection the patient's tolerance for sugar increases so rapidly that constant watch must be maintained with examination of practically all specimens of urine to prevent the development of hypoglycemia which may follow if preoperative doses of insulin are continued.

The diagnosis of the surgical complications of diabetes is seldom difficult. The possibility of complications must be constantly borne in mind and the patient adequately instructed to report certain symptoms immediately to his physician. Pain, persistence of urinary sugar, fever, swelling, intermittent claudication and discoloration of any part of the body are the important early symptoms of surgical complications but it must be remembered too that occasionally diabetics suffer from hypoesthesia of the extremities and infection may be present without causing much pain. Fortunately for diabetic patients much can be done in the prevention of the surgical complications of diabetes. The most important preventive measure is to keep the diabetes always under adequate medical control. The next most important measure is the avoidance of unnecessary trauma. Shoes should not pinch, socks should not be too tight, clothes should not rub, collars should not lacerate the neck, new shoes should be broken in gradually, corns and nails should be pared cautiously and constricting articles of clothing such as garters should be avoided. The use of irritating chemicals such as iodine or lysol may sometimes convert a healing wound into a chronic one. The next most important preventive measure is constant cleanliness of the skin. A daily bath should be taken, the body gently but adequately dried, particular attention being given to covered areas such as the axilla, under the breast, between the thighs and between the toes. Following this it is often wise to use hydrous lanolin to keep the skin soft and reduce scaling. Should the skin become unduly soft or tender rubbing with alcohol is often of value. Dr. F. G. Brigham of Boston in speaking of the value of cleanliness to his class tersely states that "a washed neck seldom boils." Deformities such as flat feet and chronic infections such as epidermophytosis should receive appropriate treatment for untreated they predispose to infection.

Carbuncle is a form of infection to which diabetics are sometimes subjected. The symptoms are the same as in a non-diabetic. Pain is very similar but it must be remembered that the febrile reaction is often less in a diabetic. And carbuncle and any furuncle in a diabetic even though the involvement is only slight or moderate is always serious and potentially fatal. The early local treatment of carbuncle is complete rest with small doses of x-ray. After 48 to 72 hours if marked improvement has not taken place flaps of skin over the carbuncle should be raised by criss-cross incision and the infected subcutaneous tissue excised. The cavity should be packed loosely with gauze moistened with Dakin's or Wright's solution and the dressing kept moist at intervals with the same solution. Carbuncle of the face requires special attention as does carbuncle of the face in a non-diabetic. It should never be squeezed and no operation performed other than a very slight incision under local anesthesia

to liberate liquid superficial pus. Hot applications should be applied and sometimes ligation of the angular vein is necessary. Furuncles are treated by rest, warm applications and when liquified pus becomes present, it should be liberated by a very small incision. Under no consideration should a furuncle or carbuncle be squeezed. Refractory ulcers are treated by rest, adhesive strapping, heat and sometimes stimulating applications of the ultra violet ray. Frequent dressings and moist dressings are to be avoided. Measures to increase the circulation are indicated and bacteriologic studies should be made.

The most serious, hence the most important surgical complication of diabetes is infection. Gangrene is a frequent complication but gangrene by itself seldom results fatally. Infection by itself or infection associated with gangrene is always serious and is a frequent cause of death of a diabetic. Dry gangrene is treated by rest in bed, dry heat and absolute local cleanliness. Bed exercises as outlined by Buerger for improvement of the collateral circulation should be practiced. Hermann reports improvement in certain cases by means of passive vascular exercises. He does not recommend the pavaex treatment for moist gangrene however. Moist applications and greasy applications are avoided in the treatment of dry gangrene as they tend to lead to maceration and infection. If an entire member such as a toe becomes gangrenous and it can be determined at which point the circulation is adequate then amputation is advisable. We repeat, however, that dry gangrene in itself is seldom dangerous. It is only an associated infection that is immediately serious.

Moist gangrene is dangerous because moisture signifies cellulitis and all too frequently this cellulitis is accompanied by spreading lymphangitis or phlebitis. If under proper measures such as adequate doses of insulin, the correct diet, rest, and local incision, the patient's temperature remains elevated and the involved area does not show signs of rapid improvement then amputation becomes immediately necessary to save the patient's life. In cases of spreading gangrene with cellulitis the point of amputation must be through apparently healthy non-infected-tissue. It makes no difference in the lower extremity whether amputation is a hand's breadth below the knee, a Gritti-Stokes or through the lower part of the thigh, just so it is well above the infected area and adequate circulation remains in the stump. In spreading cellulitis of the hand or forearm it is usually necessary to amputate by the circular method through the middle of the arm. In amputations of this type in the lower extremity my own preference is through the lower third of the thigh by the transfixion method. The tourniquet is not used as a rule but an assistant compresses the femoral artery against the pubic bone. The Gritti-Stokes amputation requires more time but gives a stump better suited for weight bearing. On the other hand I have experienced no difficulty in fitting proper artificial limbs to stumps through the lower third of the thigh. To repeat then cellulitis, ascending lymphangitis, phlebitis and septicemia are the great dangers and the only proper method of treating them unless they immediately respond to conservative measures is immediate high amputation. If gas bacillus infection is present the antitoxin should be administered.

Localized infection without gangrene in a diabetic usually signifies good circulation since without it localization would not have taken place. Infections of the plantar and palmar spaces, the axilla, glands of the neck and other frequently infected areas should be opened and drained more quickly than is usually done in the non-diabetic. This is due to the fact that infection in the diabetic tends to spread rapidly in fascial planes, seldom responds to conservative measures and once infection is relieved the diabetes is more easily controlled. Draining sinuses of the foot and hand should be x-rayed to exclude an underlying osteomyelitis.

In operating upon diabetics the type of anesthesia is important. Chloroform is practically never used because of its tendency to cause acidosis. For the same reason though to a lesser degree ether is seldom used. Nitrous oxide and oxygen and ethylene and oxygen are the general anesthetics that should be used in practically all cases of diabetes. These can be fortified with injections of novocain and preanesthetic medication with the barbiturates. On operations upon the lower extremity and pelvis spinal anesthesia is often the anesthetic of choice and it is in the surgery of diabetes that its most definite indication is encountered. Regional anesthesia such as brachial plexus block and transsacral block are often valuable. Local infiltration anesthesia may be used in areas with a good supply of blood and devoid of infection.

OCULAR HEADACHES*

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It is first important to understand just what type of pain is caused by eye strain and diseases of the eye. The pain is generally in the region of the eye or just back of the ball. Associated with this is generally supra-orbital pain and a frontal headache. When the pain is severe the temporal region becomes involved and the patient complains of the ball and whole side of the head hurting. Not infrequently the pain is referred to the occiput, with no other discomfort. Such cases are very difficult to diagnose, but their existence is well known to every oculist. Occasionally the discomfort is confined to the infra-orbital region, but this is very rare. When the pain is noted in this region, other conditions should be ruled out with extreme care.

Ocular headache is either caused by disease of the eye or by eye strain. Hence, should pain occur in the head in any region which could come from the eye. a careful investigation should be made to determine whether the eyes are diseased or suffering from strain.

Disease conditions of the lids and conjunctiva, even though they be accompanied by a marked degree of swelling and inflammation, do not ordinarily give rise to headache. Disease of the cornea may give rise to marked photophobia, but not to headache. The close relationship between the cornea and the iris gives rise to an iritis whenever there is any marked disease of the cornea and the iritis gives rise to the pain. Iritis is always accompanied by a certain amount of discomfort and when advanced, the pain is quite severe. Glaucoma of the acute inflammatory variety is always accompanied by severe pain, but in the simple type, it may exist until irreparable damage has been done, before there is discomfort. Disease of the retina, choroid and optic nerve are all free from pain. It is important to bear this in mind, because irreparable damage is done in many cases because the patient, and too often the family physician, do not become alarmed at the loss of vision when there is no accompanying pain.

Outside of the common cold, I do not believe that there is anything which gives rise to as much discomfort as so-called eye strain. Just what the physiology is in the mechanism of eye strain is not known. Probably it is merely a tiring of the ciliary muscle due to the efforts to enable the eye to better focus the light. However, there are certain other factors which do not make the problem quite so simple. Whatever it may be, there can be no doubt as to the reality of the condition. It is very important that every physician should be able to definitely determine whether a patient is suffering from a refractive error or not.

The relation between the acuity of vision and eye strain is not well understood by many physicians. When a patient has symptoms which might indicate an eye strain, it is a common practice among many physicians to have the patient look at a test chart and if the vision is normal to cease to consider the eyes as a causative factor. This policy will lead to a great many errors. Many of the eyes which give the greatest amount of trouble are those which have perfectly normal vision and many eyes with very poor vision give practically no subjective symptoms at all. While it is true that most eyes which are giving rise to symptoms of fatigue, have subnormal vision; yet many persons with normal vision have definite symptoms of eye strain. If the patient has definite symptoms of eye fatigue, further investigation should be undertaken.

If the symptoms are due to eye strain, they are practically invariably made worse by use of the eyes. With the ordinary patient, there are three things which he does which aggravate the symptoms: (1) Close work of any kind, such as reading, sewing, writing, etc. The symptoms are aggravated if the lighting is poor. (2) Moving pictures, due to the glare of the light and to the slight flicker of the objects are very prone to give rise to strain. (3) Long automobile trips are very fatiguing. The constant focusing of the eyes on moving objects is as tiring as anything the average person does. On arising in the morning the patient is usually free from symptoms, but as the day wears on symptoms begin to develop and these symptoms are made definitely worse by doing any or all of the above things.

Symptoms of eye fatigue in the order of their importance are: (1) Burning of the eyes along with a small amount of conjunctival injection. The eyes feel "scratchy" or as if there were sand in them. Sometimes the patient feels sure

*Read before the Fifth Councilor District Meeting, Carrollton.

there is something in the eyes. (2) Watering of the eyes with possibly epiphora is quite common, especially in children. Any child with constant excessive lacrymation is almost certainly suffering from eye strain. Along with watering of the eyes there may be edema of the lids. In epiphora, the sclera often has a shiny, watery, glistening appearance. This is frequently seen in the aged and when seen is generally caused by eye strain rather than due to any stoppage of the lacrymal duct. (3) Repeated styes or marginal blepharitis often remains incurable until the refractive error is corrected. (4) Soreness of the eyeballs is almost always a constant symptom. (5) Along with this soreness, there is pain in the eyeball and in the back of the eye. (6) Frontal headaches is the most constant symptom. The pain is a dull aching sensation and seems to be centralized just above the orbits. (7) Pain in the occiput is the most unusual and sometimes the most baffling of all the symptoms, because of the remoteness of the discomfort from the eyes and because there is often a lack of discomfort in the region of the eyes or if this be present, it is minimized by the severity of the pain in the back of the head. This pain may not be in the occiput, but may be similar to a myalgia of the posterior cervical muscles, with pain, tenderness and stiffness of the neck.

Muscle imbalance may give rise to definite eye fatigue. If the squint is confined to one eye and is constant in this eye with no tendency towards fusion, there should be no strain. The cases which give rise to strain are the cases of heterphoria, i.e., eyes which have a tendency to squint, but which are held in alignment by the desire to fuse the two images. It is the excessive energy necessary to hold the eyes in alignment which gives rise to the fatigue, just as the attempts on the part of the ciliary muscle to overcome refractive error give rise to symptoms of eye strain. These eyes are treated by putting prisms in the glasses or by surgery; which in most cases, gives the most satisfactory results.

One of the saddest things with which the general practitioner has to deal is his inability to tell whether the eye strain has been relieved as much as possible by the use of glasses. Probably no other phase of administering to human ills is done so poorly as the fitting of spectacles. Practically every person who makes any attempt to fit glasses is called "Doctor." Even some jewelers who sell glasses from stock are called "Doctor" by the majority of their clients. To you and to me, there may be all grades of "Doctors," but to the layman an "Eye Doctor" is an "eye Doctor" and they are classified as good or bad only in the same way as practicing physicians are classified as good or bad. That there could be an immense difference in the training and knowledge of these various "Doctors" rarely occurs to the patient. For these reasons the patient goes to the first "man who fits glasses" or often to the man with the largest advertisement in the daily paper or who gives daily talks over the radio. Hence when a physician has made a definite diagnosis of eye strain and feels that the patient needs glasses, he should be directed to a reputable man whom he feels is capable of doing this class of work. Many patients feel that if their symptoms are not relieved by a new pair of glasses that the cause for their symptoms must lie in some other pathological conditions. Such is not always the case. Many eyes can never be made entirely comfortable. However, the maximum amount of comfort can only be realized by careful and expert refraction. Only well qualified oculists should be entrusted with this important work.

CHRONIC CONSTIPATION — NOTES ON ETIOLOGY AND TREATMENT*

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For the purpose of this discussion constipation may be defined as delay or difficulty in emptying the lower bowel because of functional derangement. This intentionally excludes obstipation due to organic obstruction such as carcinoma, volvulus, stricture, etc.

Constipation is probably the most frequent of all functional disorders. Few individuals pass through life without experiencing it at some time. Many persons are in the constipated state more often than not.

The average physician pays too little attention to this prevalent disorder and for this reason, to some extent, his patients turn to the pernicious cathartics advertised by mercenary patent medicine vendors.

The etiology of constipation is not simple. An explanation based on pathologic physiology is desirable.

Irregular and faulty eating habits and

*Read before the Fayette County Medical Society.

failure to have a regular time for evacuation of the bowel, or to heed the call to defecation, may be important factors. Inadequate fluid intake may contribute to dehydrated stools. Nervous inhibition plays a part in many individuals.

One of the most important, as well as frequent, cause of constipation is anorectal disease. Any irritating lesion of the anorectal outlet, such as fissures, ulcers, infected crypts, hemorrhoids, etc., will cause an increased tonus of the musculature of these structures. This, as shown by Alvarez, reverses the basic gradient in the lower bowel and the feces above are kept from coming down and initiating the defectation reflexes.

The administration of cathartics in the presence of these conditions is obviously fallacious. Cathartic drugs produce an increase in peristalsis by irritation of the bowel; it is nature's effort to rid the body of noxious substances. If the administration of these irritants is persisted in long enough a state of chronic spasticity and obstinate constipation usually supervenes. This also applies to the persistent use of medicated and irritating enemas.

Treatment

Treatment of functional constipation, to be rational, must be directed toward the correction of the pathologic physiology.

Irregular and faulty eating habits should be corrected. The patient must be instructed to include in the diet adequate amounts of fruits and leafy vegetables and to eat as regularly as possible. An attempt to empty the bowel at a certain time each day, preferably after breakfast, is insisted upon, and in addition, a call to stool at any other time is not to be neglected.

Sufficient water, or other liquids, should be ingested to prevent excessive dehydration of the bowel contents. The nervous individual is often benefitted by mild sedatives, such as bromides, to which may well be added small doses of belladonna.

Liquid petrolatum, for its lubricating effect, should be given almost as a routine. The method of administration is quite important. I have found that small doses (1 to 4 drams) given two or three times daily *after* meals gives much better results than a single large dose taken at bed time. The reason for this is that the oil, when taken on a full stomach, stays mixed with the intestinal content and produces a lubricated, easily extruded fecal mass. If it is taken at bed time as a single large dose on an empty stomach the oil is apt to traverse the intestinal tract in a "puddle" and cause disagreeable leakage from the rectum.

Sometimes it is desirable to add artificial bulk to the fecal column. This is best done by giving one of the vegetable mucilages such as agar or psyllium seed, preferably after meals, at the time the liquid petrolatum is taken. This produces a smooth mucilaginous bulk that is not affected by, nor does it affect, digestive processes. The use of bran preparations for this purpose is open to criticism. The harsh bran fiber may do no harm to a normal colon but it may be, and often is, a source of irritation to an already irritable and spastic colon.

Surgical treatment is indicated in that group of cases in which anorectal spasticity is produced by irritating lesions. Accurate proctologic diagnosis is essential in order that the offending pathologic conditions may be completely eradicated. Uniformly good results, and often spectacular ones, follow proper surgical treatment.

Routine treatment of a patient with ordinary functional constipation should include the following:

1. Surgical extirpation of irritating anorectal lesions, if any.

2. Absolute cessation in the use of cathartic drugs.

3. Administration of half ounce liquid petrolatum twice daily, preferably after the morning and evening meals. This dose may be varied to suit individual needs.

4. Administration of additional bulk by means of fruits and leafy vegetables supplemented, if necessary, with agar or psyllium seed.

5. Routine visit to the toilet after breakfast and at any other time desire for defecation may occur.

6. An enema of one pint of plain warm water may be taken every second day if required.

Summary

Constipation is a frequent functional disorder that is often influenced by habits, fluid intake and nervous inhibition. Anorectal disease is frequently an important factor. Prolonged administration of cathartics usually makes the condition worse. Rational treatment is based upon removal of anorectal disease, interdiction of cathartics, and creation of smooth, well lubricated and easily voided intestinal bulk.

THE MANAGEMENT OF ACUTE HEAD INJURIES*

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Head injuries, constituting as they do a considerable proportion of the traumatic cases seeking medical care, are usually seen first by the general practitioner. Upon him devolves the necessity for making two important decisions: first, whether the patient should be kept as quiet as possible where he is or whether he should be removed to a hospital for immediate operative treatment; secondly, if operative interference is not indicated, the physician must decide what therapeutic measures should be employed.

The proper treatment of head injuries depends not on the presence or absence of fractures of the skull, but on the nature and degree of damage to the brain. Severe injury to the brain may occur without fracture of the skull and, conversely, extensive fractures may be associated with negligible damage to the brain. On this account, in all cases except depressed fractures, the symptoms presented by the patient are more important than the x-ray findings in determining the indicated treatment, and it is often wise to delay the making of x-ray pictures until the patient's condition is more suitable.

Frequently, the first condition requiring treatment is shock, recognized by pallor, sweating, rapid, feeble pulse and low blood pressure. Usually, general measures such as warm blankets and absolute rest will suffice in combating shock, but sometimes, the intravenous injection of 50 per cent glucose (which raises blood pressure and at the same time lowers intracranial pressure) or even blood transfusion may be necessary. No surgical procedure can be undertaken while a condition of shock exists, except where the shock is due to active hemorrhage. In this case, of course, it is necessary to control the bleeding at any cost.

The majority of head injuries require no operative treatment. These cases fall within the group commonly called "concussions," with or without simple fracture of the skull. The brain may be considered as a rather movable structure, suspended freely in a fluid medium, the cerebrospinal fluid, which ordinarily acts as a protective cushion. When sudden violence occurs, the cushion offers insufficient protection and the brain is dashed against the rigid skull. Usually, this results only in contusion of the brain with subsequent edema. The more extensive damage, such as tearing of blood vessels, will be considered later.

Most patients with edema of the brain are seen in various degrees of unconsciousness, varying from mere drowsiness to deep coma. The pulse may be slow, respirations irregular. The reflexes may be either diminished or accentuated. But there is rarely any elevation of the blood pressure. This is very important in differentiating edema from intracranial hemorrhage.

The treatment of cerebral edema consists in absolute rest in bed and the administration of hypertonic solutions to diminish intracranial pressure. If a rapid effect is desired, 50 per cent glucose (50-100 cc.) or 30 per cent sodium chloride (40-60 cc.) may be given intravenously. But, in most cases it is sufficient to give magnesium sulphate (75-150 cc.) by rectum. The effect is slower, but just as reliable and it may be repeated at intervals of three to six hours until the symptoms of edema have subsided. The use of hypertonic solutions has recently been criticized by Dandy, but the weight of evidence, both experimental and clinical, is greatly in favor of their use. It is my belief that these solutions serve to reduce intracranial pressure just as efficiently as the operative decompressions which were formerly widely employed and which are still advocated by Dandy. "Decompression" by removal of spinal fluid through a lumbar puncture needle, although beneficial at times, is a dangerous procedure on account of the risk of sudden compression of the respiratory center when the pressure is released below, but remains high above. As a diagnostic measure, lumbar puncture is not necessary, for it only indicates whether there is blood in the spinal fluid, whereas only the patient's symptoms can indicate the extent of the cerebral damage. For these reasons, lumbar puncture should be performed only in selected cases, after careful weighing of the danger against the possible knowledge or benefit to be gained.

In a few instances, the various means described above fail to bring about sufficient improvement in the patient's condition. Such patients are likely, after the first twenty-four hours, to become extremely restless at times with periods of delirium and sometimes generalized convulsions. The pulse remains slow, the retinal veins

*Read before the Christian County Medical Society, Hopkinsville, Kentucky, June 18, 1935.

become full and the optic discs begin to be choked. In such cases, it is extremely important to differentiate between continued cerebral edema with persistent increase in intracranial pressure and various bleeding with the formation of a subdural hematoma. The presence of a hematoma should be suspected whenever localizing symptoms such as hemiparesis, facial weakness, unilateral Babinski sign or focal convulsions are present. These cases will be discussed later. If no focal signs occur, and if the usual methods fail, a right subtemporal decompression should be performed. This consists in removing a wide area of bone under the protecting temporal muscle and opening the dura widely to allow for further expansion of the ademtous brain. It must be remembered that unless the dura is opened no decompression has been performed. I have several times re-operated on patients said to have had a decompression elsewhere only to find an unopened dura. The operation can be done under local anesthesia and is not a particularly formidable procedure. It should usually be done on the right side to avoid any possible damage to the left-sided speech centers. It must be remembered that patients in whom a simple subtemporal decompression is indicated are relatively rare, for edema of the brain can usually be successfully treated without operation and more extensive lesions require more extensive operative procedures.

Cases of ordinary traumatic cerebral edema are too numerous to require illustration, but there follows a brief account of one of the rare cases requiring subtemporal decompression:

Case I. (V. U. Hospital No. 68860). R. B., aged eighteen, was brought to the hospital immediately after a fall from a rapidly moving sled in which his head was dashed against a stone post. He was rendered immediately unconscious, but soon partially recovered and when seen by me was groaning and thrashing about on the stretcher. The scalp was intact. Neurological examination disclosed no abnormal focal signs. Blood pressure was 130-70 and pulse 90. X-ray films demonstrated no fracture. He vomited several times and remained semi-stuporous for about twenty-four hours. On admission, he was put on magnesium sulphate 100 cc. by rectum every four hours and the blood pressure and pulse rate were observed every fifteen minutes. After the first day, he began to become restless, thrashed about in bed, cried out incoherently and had periods of mild delirium alternating with deep stupor. Further dehydration with intravenous 50 per cent glucose had no effect. It was necessary to give him large doses of paraldehyde to keep him quiet. At no time did he develop any focal signs indicating a localized intracranial lesion. His blood pressure was slightly elevated, but showed no sudden changes. The pulse rate remained slow. It was apparent that something further must be done. Under avertin and local anesthesia, a large, right sided subtemporal decompression was made. When the dura was opened the tense brain immediately bulged out. As soon as he recovered from the anesthetic, the patient was seen to be obviously better. He was quiet, but partly conscious and only slightly irrational. Within three days, he was perfectly oriented, quite rational, and without trace of his former wild excitement. He was discharged two weeks after operation and has remained without cerebral symptoms until the present time.

All patients with severe head injuries should have frequent observations of blood pressure, for a rapidly rising blood pressure with slowing of the pulse is indicative of intracranial hemorrhage and calls for immediate surgical intervention.

Any patient with a head injury sufficiently severe to produce unconsciousness, for however short a period, should remain in bed for a prolonged period (at least ten days) after the injury in order to avoid the prolonged headache and delayed intracranial venous bleeding that sometimes occur.

Three types of head injuries require early surgical intervention: middle meningeal hemorrhage, compound fractures of the skull and depressed fractures of the skull.

1. Hemorrhage from the middle meningeal artery or its large branches is a grave surgical emergency. Fortunately, the artery as it emerges from the foramen spinosum and enters the dura is readily accessible through a small opening in the skull under the temporal muscle. Hemorrhage is usually easily controlled and extravasated blood removed through this approach.

The clinical picture of middle meningeal hemorrhage is usually not difficult to recognize. A patient receiving a head injury recovers consciousness (if it was lost) and may actually get up and walk about. This is the so-called "lucid inter-

val." He then again becomes stuporous and finally comatose and there is a rapid rise in blood pressure. At the same time, there usually develop a progressive weakness of half the body beginning in the face and extending downward and pathological reflexes on the weak side. It is important to remember that the artery may be torn on the side opposite the site of the injury. The side to be operated upon must be determined not by the location of the external injury, but by the neurological signs which the patient presents. Unless operated upon immediately, these patients almost all die of acute cerebral compression. Their urgency cannot be over-emphasized. On the other hand, if operated upon at once, a high percentage of complete recoveries may be expected.

2. Compound fractures are potential portals of entry for infection, with resulting meningitis or brain abscess. They should be thoroughly cleansed, all damaged tissue excised (including injured brain tissue if the fragments of bone project into the brain), and the wound closed without drainage. Wartime experience and recent experimental work in this laboratory (Pilcher) have shown conclusively that the success of the treatment of these cases is in inverse proportion to the length of the interval between the receipt of the injury and the operative debridement. They, too, therefore, form an urgent surgical group.

3. Most depressed fractures should be elevated as soon as possible, not only on account of the immediate damage to the brain, but on account of the large number of patients with depressed fractures who subsequently develop epilepsy. Naffziger advocates elevation of only those depressions under which the dura is torn. But this is very difficult to determine and many neuro-surgeons (Sachs, Coleman) believe that all depressions should be immediately elevated. It is my opinion that only a rare case should be allowed to remain without elevation, but in many instances (namely, those without evidence of severe focal injury to the brain), one may safely wait several days until the patient's condition will better tolerate the operation. The decision must rest on the location of the fracture and on a careful neurological examination. The following two cases illustrate the widely different pictures that depressed fractures may present.

Case II. (V. U. Hospital No. 58449). L. W., a negro boy of eighteen years, was admitted to the hospital two hours after having been struck on the right side of the head by a rock. He had lost consciousness momentarily, but was conscious and rational although somewhat drowsy when first seen. There was a large subcutaneous hematoma over the right upper face and head and x-ray pictures showed a small area of depression one inch back of the upper, outer border of the right orbit. There was some ecchymosis in the conjunctiva of the right eye. His blood pressure was 126-72. Neurological examination revealed no abnormalties except a very slight hyperactivity of the left knee-jerk. He was given 50 cc. of 50 per cent glucose intravenously at once and magnesium sulphate 90 cc. by rectum every four hours. His drowsiness rapidly disappeared and the hyperactive knee-jerk was normal within twenty-four hours. The hematoma was slowly absorbed and he was discharged symptom-free two weeks later. No trouble has developed in the eighteen months since his discharge.

Case III. (V. U. Hospital No. 58665. Referred by Dr. Jesse Smith, Gamaliel, Kentucky). O. B., a sixteen year old white boy, was struck on the left side of the head by a stone nine days before his admission. He was knocked down, but was not unconscious. He walked home and not for two hours did his family notice that he was "acting queer," seemed confused and jumbled his words when he spoke. Soon he could scarcely speak at all, was irrational and drowsy. He was put to bed and his condition remained essentially unchanged until the ninth day when he was seen by Dr. Smith and sent at once to the hospital.

On admission, there was a palpable depression in his skull in the left temporo-occipital region, with no external wound. He was confused and his entire speech mechanism was involved. He could not speak intelligently, could not understand written or spoken words and could not write. There were weakness and diminished sensation of the right side, including the face. The visual fields could not be determined on account of lack of cooperation, but rough tests suggested a right homonymous defect. It was felt that he had not only a depressed fracture but extensive cortical damage, possibly due to a subdural hematoma.

He was operated upon the following morning under avertin anesthesia. The fractured bone was fragmented, but could be elevated. However, on account of evidence of intracranial injury, the bone was

removed. There was some extra-dural clot, but, to my surprise, when this was removed, no tear in the dura was visible and its color did not indicate a subdural clot. Nevertheless, the dura was opened and there, just above the level of speech area and just behind the central sulcus the cortex showed the typical bulging and discoloration of a subcortical hemorrhage. A short incision was made in the cortex with the electric knife, the large clot removed from the brain by suction and all bleeding easily controlled by electro-coagulation. Fortunately, it was possible to completely close the periosteum as well as the dura so that it is probable that he ultimately will have no bony defect at all.

By the time he returned to his room, he could speak and understand a few simple words and within four days there was no perceptible abnormality in his speech, he was perfectly rational and the motor weakness had entirely disappeared. He was discharged on the fourteenth day, after having been up and about for two days. No symptoms have appeared in the year and a half since his operation.

To compare these two examples, the first case was not operated on because the very small depression was far forward over a "silent area" of the brain and because there were no symptoms suggesting cortical damage. On the other hand, the exploration in the second case was carried so far, in spite of the apparent lack of damage caused by the fractured fragments, because of the marked localizing neurological symptoms.

Compound depressed fractures, especially those caused by gunshot wounds are the most difficult head injuries to deal with. All are grossly contaminated. Most of them have foreign bodies, such as bullets or bone fragments driven down into the brain. Many excellent studies were made of large numbers of these cases during the war, notably those of Cushing, by Newton and Brown and many others. (I have recently written a complete review of the literature on this subject.) It is universally agreed that early complete debridement, with removal of all damaged cerebral tissue and of all accessible foreign bodies offers the best hope of recovery to such patients.

Another type of case requiring less urgent surgical treatment is the subdural or subcortical hemorrhage resulting from slow venous bleeding, as already mentioned. This is most often the result of the tearing of one of the cortical veins as it enters one of the dural sinuses by sudden displacement of the brain. Patients with subdural venous hemorrhage present the picture of a more gradual rise in intracranial pressure than do those with arterial hemorrhage. They are more likely to be restless and delirious and to have focal convulsions and they nearly always have other focal objective signs. Even in the absence of focal signs, any case of head injury with persistent or increasing signs of increased pressure (coma, slow pulse and respirations, headache in conscious patients, choked discs) or cerebral irritation (restlessness, delirium, convulsions) or both for more than a few days should be suspected of having a subdural hemorrhage. Operation is, of course, necessary in these cases. Even if the patient survives the immediate condition, a chronic subdural hematoma will be formed with the subsequent development of all the symptoms characteristic of an encapsulated cortical tumor. In the absence of focal symptoms indicating the location of the clot, it may be necessary to make ventriculograms, but the clinical picture is usually sufficiently clear to make this unnecessary. It is essential to evacuate all the clot and is sometimes possible in addition to find and control the original bleeding point. The difficulties encountered in this type of case are illustrated in the following patient:

Case IV. (V. U. Hospital No. 68183. Referred by Dr. John Hardy, Sewanee, Tennessee.) S. W., a twenty-three year old female teacher, was brought to the hospital ten days after a fall in which her head struck a stone step. She was dazed for a few minutes then recovered full consciousness, vomited and complained of severe headache. She was taken to a local hospital where she remained ten days. During this period, she remained rather drowsy, but complained of increasingly severe headache which became so intense as to require large doses of morphia for relief. She continued to vomit frequently, but had no convulsions. On her arrival at the Vanderbilt Hospital, she was drowsy, but rational when aroused. She complained of severe headache. The eye-grounds showed very full retinal veins and early choking of the discs. There were no other neurological signs except generally overactive reflexes. Blood pressure and pulse rate were normal. X-rays showed a long, antero-posterior, linear fracture of the right vault.

It was believed that the patient had a

subdural hemorrhage, but its location was not apparent and it was determined to make ventriculograms. When a burr hole was made in the right occipital region, the dura was found to have the characteristic greenish purple color indicating an underlying hematoma. It was incised and a huge quantity of dark, liquified clot evacuated. Since there was little or no membrane about the clot at this stage, it was hoped that sufficient fluid had been evacuated to relieve her symptoms. However, the headache persisted as severely as before. Accordingly, two days later, a large right sided osteoplastic craniotomy was done, disclosing a huge, largely solid clot compressing almost the entire hemisphere. The clot was easily removed and the presumptive point of original bleeding from a tributary of the Sylvian vein found and coagulated. Following operation, the patient was completely free of headache and, except for a little transient difficulty in voiding and several brief bouts of vomiting, she had no further symptoms. The eyegrounds returned rapidly to normal and she was discharged well on the tenth postoperative day.

Another less common condition resulting from head injuries is the leakage of cerebrospinal fluid from the nose following fracture into the sphenoid, ethmoid or frontal sinuses. When this persists more than a few hours, operation should be performed and the hole in the dura closed, for, if it is not, infection will sooner or later enter and meningitis result. On the other hand discharge of cerebrospinal fluid (usually blood tinged) from the ear indicates a fracture of the petrous bone and often a rupture of the tympanic membrane. This cannot be treated surgically, but the opening will usually close spontaneously. It is extremely important to avoid introducing infection by any form of irrigation or instrumentation in the external canal. A small plug of sterile cotton, changed as necessary should be gently inserted into the canal and all other treatment avoided.

The late complications of head injuries, such as chronic subdural hematoma, posttraumatic epilepsy, meningitis and brain abscess are not within the scope of this paper. Most of them will be avoided by prompt and proper treatment at the time of injury. When they do occur, most of them are still amenable to neuro-surgical treatment.

No mention has been made of whether fractures are of the vault or of the base, whether they are linear or stellate. These things have been deliberately neglected because the nature and site of the injury to the bone are of importance only in so far as they influence the location and extent of injury to the brain. Only by careful observation and evaluation of the symptoms arising in the brain itself will we be able to treat injuries of the head properly.

It should be emphasized that any major cranial or intracranial operation is a procedure of the utmost gravity, requiring not only accurate anatomical knowledge and operative skill but trained assistants and a special technic and special equipment such as an electro-surgical unit, electrically lighted retractors, and an adequate high pressure suction apparatus. Many can be done under local anesthesia and in nearly all other cases, the use of avertin as a basal anesthetic has supplanted the more dangerous deep inhalation anesthetics. With these various adjuncts, and with increasing physiological and pathological knowledge, these operations, always formidable, have come to yield better and better results. In the final analysis, however, it is on the judgment of the physician who first sees the patient and who must assume the responsibility for his disposition that the neuro-surgeon depends for his success and the patient for his life.

Cleidocranial Dysostosis in the Newborn.—Higgins states that cleidocranial dysostosis manifests itself in delayed development of the membranous bones of the skull and clavicles. It may or may not be hereditary, while deformities of the spine, scapulus, thorax, pelvis and limbs may also occur. In his case, a newborn child, the last of a family of five, showed an absence of the right clavicle and of a portion of the left clavicle and a marked bone deficiency of the skull. The cause of the condition is not known. Amniotic bands, injury, hereditary tendencies, germinal abnormalities and arrested development have all been advanced as possible causes. It would seem, however, that the true cause may be found in the theories of Fitzwilliam and Couvelaire, who suggest that the condition is probably due to the absence of certain chemical constituents that are normally present and are necessary for the calcification of membranous bones. Differential diagnosis should present no great difficulties as a rule, though special attention may be required when anencephaly, intra-uterine fractures and fractures at birth are dealt with. There is also a medicolegal aspect of some importance.

HYPERPARATHYROIDISM*

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Clinical interest in the Parathyroids began in 1925, when Collip isolated a standard potent extract of the gland. The association of the parathyroids with bone metabolism was first suggested by Erdheim in 1903. In Osteomalacia he observed enlargement of the glands, his theory being that the bone involvement was primary, the gland hypertrophy secondary, and interpreted it as nature's compensatory attempts to restore calcium to the bones.

Mandl in 1925 challenged this theory and after engrafting a human parathyroid in a case of Osteitis Fibrosa Generalisata found the patient grew worse. He later explored the neck and found an Adenoma of the Parathyroid, which he removed. The patient steadily improved and after 3 years was able to resume his former occupation.

As early as 1891 Von Recklinghausen described the condition known as Osteitis Fibrosa Cystica.

Anatomy and Physiology: The parathyroids, usually four in number, are situated in rather close proximity to the thyroid gland. Accessory parathyroids are not uncommon. According to Cowdry the average measurements are 6x3x2 m. m. in size. They are developed from the third and fourth branchial clefts. Those from the third branchial cleft are situated posteriorly and below the lateral thyroid lobes, while those from the fourth branchial cleft are found at the posterior lateral angle at the junction of the upper and middle third of the thyroid gland. The blood supply is strikingly large for the small size of the glands and derived from the Inferior Thyroid arteries.

Histologically there are two types of cells:

First: Clear cells having a clear cytoplasm taking a faint basic stain and having a relatively large vesicular neucleus. Up to 9 or 10 years of age these are the only type of cells found.

Second: Oxyphil cells, these begin to form about the 9th or 10th year of life. These cells are larger than the clear cells and seem scattered throughout the gland. The Cytoplasm is granular and takes an acid stain. Up to the present time we have no knowledge of any difference in function between the two types of cells.

The physiological function of the Parathyroids, according to the later day concept, is to regulate the Calcium ion concentration in the blood. In the year 1900 Vascale and Genenali brought forth their "toxic theory" which was later supported by Koch in 1912. Their theory was that the glands neutralized or prevented the accumulation of toxic material, principally methyl-guanidine, in the blood. They believed this toxic material, by its irritation to the nervous system, to be the cause of tetany. Since then this theory has been disproved and it seems the work of Henderson, Greenwald, Collip and Clark has definitely proven that the production of guanidine is the result of a secondary metabolic disturbance and that it has no etiological relationship to parathyroid tetany.

Disturbances in the function of these glands is associated with the following conditions:

1st: Rickets
2nd: Osteomalacia
3rd: Osteitis Fibrosa Cystica
4th: Multiple Mycloma
5th: Osteitis Deformans
6th: Urinary Calculi

Stenholm classifies all these conditions, where bony changes are seen, as "Osteodystrophies."

Since the physiological function of these glands seems to regulate and control calcium metabolism, it may not be out of the scope of this paper to review a few of the salient facts concerning this important mineral. Calcium is necessary for the metabolism of all cell protoplasm. Calcium ions are important factors in the regulation of the vegetative nervous system, the excitability of the peripheral nerves and the maintenance of smooth muscle fibers. Absence of iodized calcium leads to cell permeability, nutritional oedema being an example.

The normal blood calcium is between 9 and 11 mgms. per 100 c.c. of blood. Barely 1-5 of this is in an ionized form. The bones store 97 per cent of the total calcium. Most authorities claim that at least 7 1-2 grains (0.5 gms.) of calcium are necessary daily to maintain a normal balance.

Excretion of calcium is mainly through the kidneys and only in a minor degree by the bowel. Other outlets are the placenta and the lactating breasts. Calcium is absorbed chiefly from the upper portion of the small intestine. Acids increase its solubility, hence they increase its absorption.

Dragstedt says "The parathyroid secretion serves in the transfer of calcium from the alimentary canal and its deposition in osteoid tissue." The diffusable calcium, that portion which is capable of passing through an an

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imal membrane, is said to be about 53 per cent of the plasma calcium. The spinal fluid contains this amount, according to Cantarow. Calcium in the inorganic state exists mostly as the carbonate and phosphate. In the organic state it is bound up with the proteins of the plasma. The ionized calcium is inorganic and bound up in a citrate-protein combination and is diffusable. The addition of citrates to the blood increases the amount of diffusable calcium.

The normal blood phosphorus is from 3.5 to 4.5 mgms per 100 c.c. of blood.

Pathology: The two principal pathological changes found in the parathyroids are Adenoma and Hyperplasia. The former is considered primary and the latter secondary.

Osteomalacia, rickets, multiple myeloma and carcinomatous bone metastasis are seen associated with secondary hyperplasia of these glands. Both types produce a hyperactive gland, an increase in amount of parathyroid secretion with its resultant hypercalcemia and bony changes.

Jaffe has written a lengthy article dealing only with pathological changes. In trying to cover as much of the entire subject as possible, it is not within the scope of this paper to go deeply into the bony changes from a pathological standpoint. Most of us are more interested in the clinical pathology, therefore we will continue from that angle. The long bones show the greatest degree of changes, next in order being the spine and pelvis, the skull, jaw bones and the ribs. The short bones of the hands and feet are only mildy affected. In some cases only a few of the bones show marked macroscopical changes only, the remainder of the skeletal system showing microscopical changes only. Cysts, when they form, usually in the long bones, expand and so thin the shaft that spontaneous fractures develop at their site. A cyst of the jaw, often diagnosed as an Epulis, may be a manifestation of this condition.

Spontaneous fractures of the vertebrae are commonly the first real evidence an affected individual may have that a disease is present. These are crushing fractures due to softening of the bony vertebrae. Often a jar or fall, so slight as ordinarily to be forgotten, may cause a vertebral fracture.

The teeth may loosen and fall out. This is due to bony absorption in the teeth sockets and not to any changes in the teeth themselves. In many cases reported, the teeth were in perfect condition, showing no evidence of any absorption or softening. This leads to the conclusion that the teeth are not reservoirs for calcium.

After the disease is well advanced the skull presents a rather characteristic appearance. The bones that form the vault show marked porosity with irregular areas of thinning of the tables.

The first change found in bones in this condition is a widening of the lacunae or bone spaces and the appearance of Osteoclasts (destroyers of bone). As the resorption continues, the spaces become larger, thus a beginning cyst is formed. If the Osteoclasts continue to multiply, a tumor mass occurs, hence the term Osteoclastic tumor. There is also a fibrosis of the marrow which occurs along with the changes described. There may be calcium deposits in the stomach wall and lungs as well as other organs.

Clinical Pathology: 1st: Blood calcium, usually over 11 mgms. There are exceptional cases reported where the blood calcium was not above 11 mgms.

2nd: Blood Phosphorus under 3.5 mgms.

3rd: Increase in daily urinary output of calcium and phosphorus.

4th: Secondary Anemia.

5th: Occasional increased output of urine (polyuria).

6th: Sub or an acidity of the Gastric Contents.

Symptoms: This disease affects persons usually between 30 and 60 years of age. Women are more frequently affected than men.

These symptoms come on rather insidiously. These individuals may notice, for a long time, they easily tire out, have an irregular appetite, at times normal and at other times very poor. They may complain of cold hands and feet, representing a vasospastic phenomena.

Nervousness and insomnia may also be noted. Tremor of hands has also been mentioned. Nausea, occasional vomiting and attacks of acute abdominal pain have been recorded. As the disease continues, pain develops in the spine or in a long bone, the seat of a cyst or tumor. The spinal pain is usually due to a spontaneous fracture of one or more vertebrae.

Loss of weight may be found only after patient gets on a scale. There may be no loss of soft tissue, hence no visible loss of weight. The loss here is due to the demineralization of the bony system.

There may be bony deformity of the long bones due to cysts and osteoclastic tumors. Loss in height may also be noted. One case is reported in the literature, with spinal involvement, when there was 7 inches shortening.

The muscular weakness increases until those affected can scarcely get out of bed to even sit up in a chair. Postural abnormalities

may eventually take place. The knee reflexes diminish and may be eventually lost.

Increased thirst and polyuria are also mentioned.

Attacks of renal colic occur, at times bilateral, due to the rapid elimination of calcium through the kidneys, causing their deposit in the form of calculi. This is most likely to occur if there has been kidney disease before the onset of hypercalcemia.

There is a diminished muscle response to electrical currents.

The disease may last for years, crippling but not necessarily killing.

Hyperparathyroidism, if unarrested, can cause parenchymotous nephritis and it is the constant hypercalcemia, with the high calcium elimination by the kidneys, that probably is the underlying cause.

Diagnosis: The diagnosis of this condition is made from the symptons as given, the X-ray findings and the blood calcium and phosphorous changes. Those cases where there is a functional overactivity of the glands due to hyperplasia and not to an adenoma, the only criterion to differentials is time and the response in the functional types to calcium therapy. In a true case of the adenomatous type, this will do no appreciable harm, according to Ballin, but do no material good.

As regards the differential diagnosis, I will leave this to Dr. Virgil Simpson and Dr. H. C. Herrmann, who have kindly consented to present this in the discussion which is to follow.

The treatment of this condition is both surgical and medical. Where an adenoma is reasonably suspected, that is, after medical treatment has failed, or if a small mass can actually be palpated occupying the site of one of the parathyroids, Albright says surgical treatment alone can benefit the patient. He also strongly stresses that irradiation, in his experience, has been of no benefit in adenomata. The surgical treatment is the removal of the adenomatous gland. On several occasions two of the glands were adenomatous and removed with marked benefit to the patient. The surgical removal of one or two hyperplastic glands did not cure these patients on whom it was tried.

Albright again states that the treatment for overfunction due to hyperplasia of the glands is medical. He has hopes that X-Ray therapy, directed over the glands, may prove of some value in diminishing their over-activity.

Since the parathyroid hormone serves to stabilize the blood calcium, just as insulin stabilizes the blood sugar, the available calcium for it to act upon must be increased. It is analagous to hyper-insulinism, where to counteract an over amount of blood insulin, glucose is given for the hormone to act upon and balance the blood glucose. Calcium, either in chemical or in a diet rich in this mineral, should be given so as to raise the available calcium for this hormone to act upon. In the presence of badly crippled kidneys, calcium should be cautiously used, as renal stones and further kidney damage may results is the use of over amounts.

To increase the available calcium by diet alone necessitates a more or less measured amount of food rich in this mineral, some of which food the patient may not especially care for. Then again, appetite is variable. It is inconvenient for some who travel or who eat in restaurants to always get the right type of food.

On the whole, it seems plausible to partly rely on a diet reasonably rich in calcium and partly on calcium given by mouth. There is still the question as to whether the calcium bound up in food contains more available ions than the mineral given in drug form.

Since, in this condition, the blood phosphorous is low, it would seem the best form of calcium to be given, in drug form, should be the phosphate or diphosphate. Ordinarily from 20 to 25 grains a day at most should be about all the calcium that nature can metabolize in 24 hours without increasing the likelihood of kidney irritability.

There are several points brought out in the literature worth calling to your attention in connection with calcium therapy.

1st: Calcium is better absorbed in the presence of an acid stomach than one low in acid or anacid.

2nd: The urine should be kept acid. Perhaps the best acidifier is dilute hydrochloric acid, given with each meal. Do not use Ammonium Chloride to acidity urine. It increases the action of the parathyroid hormone in decalcifying of bone. (Albright and co-workers).

3rd: Citrates seem to increase the amount of diffusable calcium, hence orange juice once a day should be helpful.

4th: Force fluids for the dilutent effect in lessening kidney irritation.

5th: Dicalcium Phosphate seems recently to be the most popular form of calcium for internal use. The gluconate and lactate salts seem, from the reports of clinical cases, to have given very good results.

6th: Calcium therapy does not seem to do harm in the presence of normal kidneys or to especially cause stone formation.

7th: It is well to check up the blood cal-

cium at various intervals, as well as X-ray re-checks to study the benefits being derived from treatments.

8th: Regular urinary examinations.

Viosterol serves to act very much like Parathyroid hormone and serves to assist in the transfer of calcium from the bowel to the blood. Since it acts similar to parathyroid hormone, and we already have an overabundance of this hormone, it is really contra-indicated. It should be of some value in hypo-parathyroidism. Violet Ray treatments, acting like viosterol, should also be contra-indicated.

DISCUSSION

V. E. Simpson: In a differential diagnostic study of osteitis fibrosa cystica it is helpful to consider it and those other disturbances of bone pattern with which it may be confused as a group and apply to them a group name—malacic bone disease. They all present one common cause—a defect in metabolism.

Such a grouping at once excludes from consideration a number of conditions which are in no sense malacic. They show bone defects, but they are defects from pressure or erosion. In this group I would list Schuller-Christian's disease, Gaucher's disease, Hodgkin's disease, aneurysms and carcinomatosis. Multiple myeloma may belong here, but the thought is suggested that it may be only an osteitis fibrosa cystica with a malignant end stage.

Then I would create a second group for exclusion and use it as a sort of dumping ground for misfits. Basedow's disease, diabetes mellitus, basophilic adenoma of the pituitary and adrenal tumors may all cause decalcification. Renal rickets may well be put in this group, as an explanation of this condition may be found in phosphorus retention; this results in a hyperplasia of the parathyroids and withdrawal of calcium from the bones.

The remaining bone metabolism defects may be thought of as a malacic group, but a division of its members into three groups serves to clarify the clinical picture.

(a) A sub group presenting a primary defect in mesoblastic tissue of the entire body, the defect not confined to bones. There is no primary deficiency of calcium metabolism; instead there is inability of the connective tissue cells to build up a sufficient groundwork on which lime may be deposited. Osteo genesis imperfecta and fragilitas ossium are candidates for membership in this sub group. They may, and probably are, one and the same disease, the former occurring as a juvenile and the latter as an adult manifestation.

In osteo genesis imperfecta the picture is one of congenital defective ossification, bone fragility, arrest of growth and deformities, the sequence of fractures; the fractures are frequent; the union is rapid with good callus; there is no deficiency of inorganic bone constituents; there is generally impaired hearing, a scleral coloration and a history of familial tendency may generally be obtained. The facial bones become cartilaginous, the vault of the skull shows greater lack of ossification than the base; here is little cancellous tissue at the ends of the shafts of the long bones and periosteum is normal except at fracture sites. The X-ray appearance of bones in this condition show a thin cortex, cartilaginous shadows in the face bones, wide open fontanelles and calvareum sutures with wide dense bands near the diaphyses; a shaft atrophy and many bones misshapen. This condition usually occurs in infancy or adolescence, but an adult form also exists.

(b) A sub group showing a primary defect in calcium absorption and fixation. A deficiency in food calcium, an inadequate amount for unusual conditions, a deficiency of a vitamine or any combination of these may result in malacic bone changes. Here must be grouped osteomalacia and rickets.

Osteomalacia is to the adult what rickets is to the child. It may be associated with endocrine dysfunction, though the Italian School believe it to be an infection. The thought occurs here, are these the same processes, one infantile, the other adult. In any event, there is no connective tissue deficiency, but rather an inability to get enough calcium to fix it as supplied. The blood calcium is normal in these cases, as is also the phosphorus. These diseases are not due primarily to a parathyroid disease, in my opinion, and the connection this gland has is rather that of a primary hyperplasia analagous to an adolescent goitre, which may in after life become toxic. Clinically, there is at the onset pain in the hips, back and extremities, increased by movement. There is easy fatigue, with difficulty in walking due to pain and muscular weakness; a general softening of the bones with deformities such as kyphosis, scoliosis and a shortening of stature. There is usually an impaired memory, apathy, irritability and later in the condition, dementia may appear. It is characterized by chronicity with remissions and exacerbations. A few spontaneous cures have been reported. It occurs more frequently in pregnant and lactating women, but a male form called virile osteomalacia is described. Likewise, an infantile form is recognized. Its relation to parathyroid disease arose from the disturbed calcium metabolism, though some clinicians believe it to be related to the gonads. The condition is characterized by osteoblastic absorption and X-ray studies show that the shafts and ends of the long bones are affected

alike. There is a faint network of fine lines. The pelvic cortex is thin, deformity frequent and fractures common. Laboratory studies show an increase in the magnesium and sulphur content of the blood, an alteration of the calcium and phosphorus ratio, with excess amounts of calcium and phosphoric acid in the stools. In other words, there is an increase of organic and a decrease of inorganic constituents.

Rickets is a disturbance of the calcium and phosphorus balance and results in marked bony changes. The clinical features are so well known that they need not be enumerated in this connection. The chief deformities of the skeleton consist of deformity of the long bones, beading of the ribs at the costochondral junctions, with undeveloped patches in the skull bones, a skull deformity, stunted growth and pathological fractures. X-ray studies demonstrate saucer-shaped epiphyseal line, widened and irregular, with bone absorption in the form of decalcification, an atrophy of the bone ends, a widening of the sternal ends of the ribs, spinal curvature, a pelvis deformed, either a flattening in the antero-posterior diameter or a tendency to funneling, the result of upward pressure of the femurs. The head becomes flattened on its vertex and long in its antero-posterior measurement.

(c) This group includes osteitis deformans, leontiasis ossium, the ankylosing polyarthritis of Oppel, multiple giant cell tumors, myeloma and osteitis fibrosa cystica. Considerable experimental and clinical evidence is now available to support the premise that an over-supply of the parathyroid hormone may be responsible for the decalcification and hypercalcemia which are characteristic alterations of metabolism in this group. Some observers believe that multiple myeloma of the bone is but a malignant end stage of osteitis fibrosa cystica.

Consideration of the etiological possibilities in this sub-group is interesting. Dresser thinks that they may be divided into two groups, those due to an over activity of the parathyroids and those due to some unknown cause. Barker refers to this group as osteopathies of postulated parathyropathic origin. It has long been known that tetany is associated with hypofunction or absence of function of the parathyroids. It would seem that, conversely, over activity of the parathyroids should result in a high calcium blood content, a diminution of phosphorus, an increased loss of calcium and phosphorus by the urine and a decalcification of bones. An adenoma has been found to be the most common pathology in such a condition. It requires but little clinical imagery to take the step from an adenoma of the thyroid with thyrotoxicosis, an adenoma of the pituitary with preadolescent giantism or post adolescent acromegaly, and an adenoma of the pancreas with hyperinsulinism to an adenoma of the parathyroids with hypercalcemia and decalcification of bones. That step was taken by Mandel in 1926, when he did the first operation, removing an adenoma in the parathyroids for the relief of osteitis fibrosa cystica. It is interesting to note that he had previously transplanted parathyroids into his client and had noted aggravation of symptoms. Out of this came the first thought that the theory that hypertropy of the glands was a compensatory mechanism was wrong and that the hyperactivity was instead due to a tumor.

And, finally, the argument has been advanced that if scarlet fever may be present without a rash, if thyrotoxicosis may exist with a normal basal rate; if there is an aleukemic leukemia or amebiasis without dysentery; so may a hyper parathyroidism obtain though no determinable change in the glands is made out clinically or even microscopically.

H. C. Herrman: One of the outstanding factors in hyperparathyroidism, as has been emphasized by the previous speakers, is the increase in the blood calcium and the decrease in the blood phosphorus, with an accompanying decalcification of the bones. This makes it possible to demonstrate roentgenologically these lesions and often leads to the diagnosis as the general symptoms often go unrecognized for months before the condition is revealed by an X-ray examination.

Case 1 is a hyperparathyroid. This patient was seen December, 1933, and the X-ray films show marked absorption of the calcium of the bones. The bones are less opaque to the X-ray and show multiple cysts within the long bones. These films also show marked deformity due to the softening and compression of the bones of the spine and flattening of the vertebral disc, with a settling of the entire spine, incidentally to such a degree that the lower ribs rest upon the ilium. Often spontaneous fractures occur in the long bones at the cite of the cysts. The long bones usually show a slightly less degree of absorption than the spine, but more commonly show the cyst formation, while the spine shows a greater degree of absorption of the calcium and seldom shows cysts. The formation of the cysts is explained by the absorption of the calcium from the trabeculae of the bones, with a rarefaction with giant cell formation about the rarefaction, or sometimes classified as an osteoclastic absorption of calcium.

In hyperparathyroidism there is an increase in blood calcium, while in a condition parallel with this type of disease is a low blood calcium and absorption of the lime salts, or we might classify it as an osteomalacia, which occurs usually in adults past forty years of age,

where there is also a deformity and marked rarefaction of the bones, but an absence of the small cysts which are commonly seen in the long bones in hyperparathyroidism.

Films of case 2 show a condition classified as osteomalacia, where there is marked absorption of the lime salts with compression of two lumbar vertebrae and the absence of cysts in the long bones. Various other forms of cystic changes within the bones must be differentiated from hyperparathyroidism, such as a simple cyst which usually occurs in the metaphysis and shaft of the long bones, also from multiple cysts which occur in a single bone in the metaphyseal and subcortical areas of the shaft, such as osteitis fibrosa cystica or von Recklinghausen's or pseudo-Paget's, such as films of case 3.

Much can be said as to the origin, location and general make-up of the cysts, multiple or single, and their time of development, which would lead to a diagnosis and prognosis in cyst formation within a single bone.

Metastatic malignancy (Case 4) must also be differentiated. This type shows numerous areas of absorption, but not the true cyst formation, as shown in the previous films. Multiple myeloma, which is very rare, must also be differentiated. This type shows numerous small cysts scattered throughout the entire bony system, with an absence of generalized decalcification of the bones and Bence-Jones bodies in the patient's urine.

Case 5 shows what would be classified as a Kummel's disease, this patient having had an accident, and at the time of the accident showing little or no changes within the vertebrae of the spine. Two and a half years after the accident an X-ray examination of the spine shows a compression with absorption of three of the bodies of the vertebrae, two in the thoracic region and one in the lumbar region. This was interpreted as a terminal result of the injury and classified as Kummel's disease. Six months latter the patient had a liver and gall bladder disturbance, which on operation proved to be a malignancy of the liver, yet the spine symptoms were all a year or two previous to the liver and gall bladder malignancy.

Here are two films I would like to show that are the opposite of bone destruction or absorption, i. e., bone production. These films of the skull show areas of bone production within the vault of the skull that are classified as osteophytes, the origin and nature of which are questionable.

In Paget's disease we get a thickening of the cortex of the bone which sometimes shows a marked increase in density as well as a few cyst formations and often difficult to differentiate from metastatic malignancy.

The final film is a case of osteomyelitis of the skull, which shows areas of destruction and no cyst formation. As a comparison these areas of lessened density are easily distinguished from the cysts.

W. O. Johnson: In considering Dr. Gaupin's very interesting paper, from a surgical viewpoint, I wish to present two phases: first, a clinical syndrome, which I think falls definitely under the heading of surgical conditions, namely, a person of middle-age who has for a short period of time noticed a progressive weakness, bone and joint pains, some secondary anaemia, and slight weight loss, showing decalcification of the skeletal bones with high blood calcium and increased calcium elimination, and evidences of calcification in the cortex of the kidneys or repeatedly forming kidney stones. This syndrome suggests a parathyroid adenoma, and under such conditions, an exploration of the parathyroids is justified.

Secondly, it is very infrequent that these tumors can be felt externally, and only by exploration and removal when found, in this type of case, are satisfactory results obtained.

Dr. Edward Churchill, in the S. G. & O., February, 1934, page 255, presents a series of such cases. Because one does not find an adenoma does not mean that there are no adenoma of the parathyroid present. Parathyroid adenoma have been found in numerous locations in the neck.

Surgery is not always advisable in other forms of hyperparathyrcidism, but in such cases are we not justified in making sure that we are not dealing with an adenoma of the parathyroid, for when found, surgery gives the most satisfactory results.

Murray Kinsman: I would like to ask a few questions; is there any possibility of confusion by X-ray, with Paget's disease, and secondly, I would like to ask Dr. Gaupin briefly to repeat the technic of medical treatment. I listened as carefully as I could, but it is yet not clear in my mind.

It seems to me there are so many phases of this that are conflicting and contradictory. I think I understood Doctor Gaupin correctly when he said the purpose of the parathyroid secretion was to aid in the absorption of calcium in the intestines and its deposits thereafter in bone, and yet I am not clear whether he said parathyroid secretion should or should not be given in those cases. I would also like to ask him to explain the mechanism whereby calcium is taken from bone and deposited in the stomach and heart. I think I understood him correctly when he said that.

A. T. Hurst: As Doctor Simpson has stated, this is a condition in which the medical profession is writing a new chapter, but we are

still in the early stages of the chapter.

Formerly it was thought that the parathyroids only controlled the usage of calcium in the body, but we believe now that it also plays some part with the phosphorus role in the body. If you realize how intimately calcium, phosphorus, and parathyroid hormone are connected together you can understand how difficult it is to properly evaluate the role of any one substance. It has only been since the development of a satisfactory extract by Collip that real progress has been made. Other things also seem to play a part in this combine such as Doctor Gaupin has mentioned. The sugar, lactose, has definitely been shown to exert some indirect action in that it stimulates the absorption of calcium from the bowel and assists in its utilization in the body. In just what way lactose plays its part is not known. Thus you can realize how complicated the role of the parathyroid glands is in metabolism and how few pages we have turned.

One thing I would like to stress that was mentioned in the paper is the role of the kidney in hyperparathyroidism. As Doctor Gaupin explained, your kidney is the great excretory organ of calcium in your body. That kidney is readily damaged—often you have a stone formation in the kidneys. What I want to bring out is the fact that the stone in the kidney may be the only symptom you have; it may be the first symptom, so, whenever you see a case of stone in the kidney you should investigate the patient from a standpoint of hyperthyroidism. Especially is that true where you have cases of kidney stone that do not respond to the usual medical treatment or where the stone is removed and recurs again. You should always keep in mind that the stone may be due to hyperparathyroidism usually from an adenoma of the gland. If you do investigate and find the patient to be suffering from hyperparathyroidism but are not able to palpate an adenoma then an exploratory operation in the neck as Doctor Johnson has suggested is indicated. You may find an adenoma and by removing it prevent a recurrence. Don't forget, the stone may be the only symptom you have of hyperparathyroidism, or, as Doctor Herrman has explained, your symptoms may be found on X-ray primarily.

Walter Hume: This is a subject in which there is widespread interest just now and I think the Committee and the Essayist are to be complimented for bringing it up for consideration. It is a comparatively new field and the surgical treatment of the conditions under consideration makes the subject of as much interest to Surgeons as to Medical Men. A considerable number of parathyroidectomies have been reported. For example, Max Ballin of Detroit mentions about 120 operative cases in a recent paper, over 50 of which were done for osteomalacic conditions and about 70 for ankylosing polyarthritis. Churchill of Boston recently reported 50 parathyroidectomies. Most of his were done for ankylosing conditions of the joints, osteitis, fibrosa cystica, etc. Quite a few other operators have reported similar but smaller experiences.

Dr. Johnson, in his discussion, spoke of some of the difficulties of differential diagnosis and I would like to add to this the thought that the surgery of these glands is apt to be technically difficult also. It is true that these glands are so small that they may become comparatively greatly enlarged and yet be not visible nor palpable. The diagnosis therefore must depend on something besides physical signs. They vary in number and location often thus making any surgical attack exploratory in this sense.

One other surgical consideration, just as in thyroidectomy, is the amount of tissue or rather the number of glands to be removed in any given situation. Lahey has an assistant to examine removed tissue, in thyroidectomies, to find if parathyroid glands have been removed with the thyroid. He promptly transplants parathyroids thus removed if found. This, of course, is with the idea of preventing postoperative parathyroid tetany. In direct attack on these glands tetany must be considered. If tetany occurs calcium, of course, is the drug on which to depend.

One further thought that is of interest to me I will add. The anatomical relations of the thyroid and the parathyroids are so close that these glands of internal secretion may naturally be thought to be related in function. But in so far as I am able to ascertain there is no such relation. Dr. Crile, in a comparatively recent article, declared that no functional relation between these two glands had been discovered to that date.

Harry Goldberg: Hyperparathyroidism is one of those borderline cases, which may present itself first to the Internist, Genito-urinary Specialist, General or Orthopedic surgeon, depending upon the predominating symptoms.

The orthopedic surgeon generally sees the patient when a pathological fracture or deformities have occurred.

Hyperparathyroidism, as you have heard, is characterized by widespread resorption of bone with cystic degeneration, and is associated with a hyperplasia of the parathyroids, hypercalcemia, and an increased calcium excretion. In the two cases I have seen, a cystic adenoma of the parathyroids was found. The predominating symptoms were bone pain and tenderness, hypotonicity of the muscles, associated with a pathological fracture and deformities. There

may also be, as Dr. Gaupin mentioned, gastro-intestinal or genito-urinary symptoms. The blood chemistry showed a high calcium, low phosphorus, and increased blood phosphatase content.

Following the removal of the parathyroid tumor, the bone pain and tenderness ceases, and the general health of the patient improves. The blood chemistry gradually returns to normal.

The post-operative treatment of these cases is important because hypocalcemia or tetany may develop. These cases should have a high calcium diet and given large doses of calcium lactate. If tetany develops, Parahormone should be given.

C. E. Gaupin (In closing): In presenting this paper I did not present it in a role of an authority on the subject, but really more as a stimulus for the study and recognition of these cases when we see them. In some cases the bone symptoms are late and the patient has progressed for quite a while before the bones are generally involved by very severe bone cystic diseases or before a spontaneous fracture has occurred.

I mentioned in the paper that there are frequently accessory parathyroids, so there is no definite or sure way of telling whether they have four or five or six, and I know from reports in the literature that in looking for parathyroids sometimes it is a very difficult thing for the surgeon to locate them. It requires a great deal of experience and is really difficult surgery.

Now, insofar as the assertion I made that the parathyroid hormone serves to convey the calcium from the alimentary tract to the blood and its deposition in bone, that is a statement of Dragstedt and is not my own. I question whether the parathyroid hormone will put calcium in the bone. If it put calcium in the bone you would not have demineralization taking place in this condition where there are large amounts of parathyroid secretion.

The later idea is, that all the hormone does is to act on the calcium from the bowel, (the available calcium), thereby regulating the calcium ion concentration in the blood.

Now, so far as to how the calcium is deposited, in the stomach and different organs, I do not know. I think it is a difficult question to answer as to how calcium is deposited in the different portions of the body. We know this, that there are certain things that do increase the availability of calcium and make it more available, and, as one of the gentlemen mentioned, lactose. Certainly it has been shown that acids increase the solubility of calcium, for instance, hydrochloric acid. If you have a normal acid stomach you will have more calcium absorption. Acids seem to render calcium more diffusible, and the more diffusible the calcium you have the more good you are going to have, because that is the calcium that is able to pass through animal membranes.

As I have mentioned in the paper, it is rather difficult to say whether your case is primarily an adenoma or whether you have a hyperplasia of the gland which produced a hyperfunction. Ballin has suggested that in those cases in which it is difficult to state, you should put your patient on a calcium diet. If it is a true adenoma he is not going to get any better, and as long as you do not have a severe kidney damage, you will not do any harm.

Where you have a diseased kidney with impaired function you have to watch calcium therapy because you are apt to get a stone formation as the result of pushing calcium, especially in large doses. Actually the more calcium you put in the body the more there is going to be eliminated. The kidneys are usually diseased in those cases where stones are formed, and stones are one of the things that make you suspicious that a hyperparathyroidism exists. If you see a case of bilateral stones in the kidneys, or if a case may go to a dentist for epulis; at times these cases are ones of hyperparathyroidism.

BOOK REVIEWS

FAILURE OF THE CIRCULATION, by Tinsley Randolph Harrison, M. D., Associate Professor of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee. Williams and Williams Company, Baltimore, Publishers.

During the 20th century the advance of knowledge in regard to cardiac disease has progressed especially along the etiological and statistical lines. In addition, instrumental methods have been developed which have been of great value in leading to a better understanding of cardiac disease.

This present volume goes into minute details on all subjects related to the cardiovascular system.

SURGICAL PATHOLOGY OF THE PERITONEUM by Arthur E. Hertzler, M. D., Surgeon to the Agnes Hertzler Hospital, Halstead, Kansas, Professor of Surgery, University of Kansas.

The author for more than forty years has been working on the problems occurring in the pathological peritoneum and this volume is the result of that experience.

The subject and nature of adhesions has received due consideration. The book is splendidly illustrated and the subject is discussed from every angle.

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NEXT MEETING PADUCAH

COUNTY SOCIETY REPORTS

McCracken: The members of the McCracken County Medical Society, draw up the following resolutions concerning the death of one of their comrades, Dr. J. T. Reddick.

Be it resolved that in the passing of Dr. J. T. Reddick on Sunday, May 12th, 1935, the medical profession lost one of its ablest persons. In him was a spirit that pioneered and has meant so much for the progress of surgery. In him was integrity that showed the dignity of our profession. In him was abounding love for his fellow man that brought warmth to not only his labors, but that of his fellows.

Be it resolved that our loss as a profession is comparable to the loss felt by our commuunity and by every institution of good in our midst. He was a Christian citizen of the highest order.

We further resolve that a copy of these resolutions be placed in the minutes of our Association and a copy sent to the Kentucky State Medical Journal for publication and a copy to the family to whom we offer our deepest sympathy.

Committee:
J. Vernon Pace,
T. J. Marshall,
H. D. Abell.

Grant: The Grant County Medical Society met in regular session September 18th, 1935 at 7:30 p. m. with the following members present: President J. J. Marshall, J. T. Davis, J. D. George, R. E. Kinsey, C. M. Eckler, N. H. Ellis, and C. A. Eckler.

The minutes of last meeting were read and approved, and all communications disposed of in the usual manner.

At this time a discussion arose with regard to one communication we had from the State Board, requesting the names of all parties we knew in Grant County practicing medicine without license. It was moved and seconded that the secretary report the following names to the Board of Inquiry: Mrs. Mary Wagner, practicing with cancer salve. Mr. Ervin, a chiropractor and Mrs. William Lonkard, a midwife. As we are duty bound to protect our country from quackery, hence, this proceeding.

We now excluded all further proceedings of the meeting, and discussed the sudden and untimely death of our deceased brother, Dr. C. D. O'Hara, and the President appointed Dr. C. A. Eckler, and Dr. N. H. Ellis to draft resolutionc of respect for our next regular meeting and that a copy of this be published in the Grant County News and one sent to the family, and one to be spread on our minutes.

We also ordered a $6.00 spray of flowers for the Society.

We now adjourned in a body to visit the

deceased at his home on Falmouth Street.

C. A. ECKLER, Secretary.

Fifth District: At the May meeting of the Fifth District Medical Association a motion was made and carried that one meeting each year be held in some place other than Carrollton, Ky. When the Association was organized Carrollton was designated as the regular meeting place.

Pursuant to this motion the November meeting of the Association was held in Frankfort on November 7th, 1935, at the Capitol Hotel Present at this meeting: Drs. A. David Willmouth, Ira N. Kerns, A. E. Liggett, W. T. McConnell, D. Y. Keith, C. W. Dowden, T. Cook Smith, G. W. Caudell of Jefferson County; W. S. Snyder, M. C. Darnell, E. W. Frymire, Grace R. Snyder, L. T. Minish, Reuben Coblin, E. C. Roemele, Jno. T. Speedort, C. E. Yoemans, A. M. Jackson, F. M. Travis, W. P. Blackburn and John Patterson of Franklin County; J. W. Shupert, J. W. Miller, Carl R. Bogards, J. M. Stallard of Gallatin County; T. S. McBee and Geo. Purdy of Owen County; E. W. Wyman, Maurice Bell and Owen Carroll of Henry County; H. B. Blaydes of Oldham County.

The meeting was called to order by Dr. J. M. Stallard, president.

After a short talk by Dr. L. T. Minish, welcoming the Society to Frankfort, the program was taken up.

The first paper was by Dr. T. Cook Simth on "Infantile Paralysis," demonstrating his lecture with pictures. The paper was discussed by Drs. G. W. Caudill and A. David Willmouth. This paper and the discussions reminded me of Mark Twains saying: "Everybody talks about the weather but nobody does anything about it" and while I think we could not have had a more able paper and discussions it all winds up to mean that we have lots to learn about the disease and treatment.

The second paper by Dr. A. E. Liggett on "Some Common Eye Injuries." This paper was discussed by Dr. Snyder of Frankfort and I feel that we, especially we country doctors, learned much on this subject.

The meeting was then adjourned for lunch at the Capitol Hotel, which was excellent and enjoyed by all the doctors.

The meeting was called to order again at 1:30 when Dr. Fred W. Caudell of Louisville took up the subject of "Typhoid in Kentucky" and a more enthusiastic well informed Epidemiologist, we seldom see.

The next paper was by Dr. W. T. McConnell of Louisville, subject: "Some Complications of Childbirth" and the doctor talked to us about the things we have to contend with in a way that we all understood and I am sure his paper will be of assistance to every physician present who practices obstetrics.

The last paper by Dr. W. P. Blackburn of Frankfort, subject: "Surgical Treatment of Pulmonary Tuberculosis." This paper was discussed by several present and while it described operations above the heads of all of us except the surgeons, it showed intensive study and inspired us all to make an effort to diagnose tuberculosis in its early stages.

On motion of Dr. Purdy, the Secretary and President were directed to write a letter of sympathy to Mrs. B. K. Menefee of Covington. Her husband having passed away on May 20th. He had been a constant attendant of the Fifth District Medical Association and was appreciated by us all.

Next in order was the election of officers for the coming year. Dr. B. T. Beetem of Trimble County was elected President, Dr. L. T. Minish of Franklin County, Vice-President, and Owen Carroll of Henry County, Secretary.

The meeting adjourned to meet in Carrolton next May, at which time it is hoped the doctors of the Fifth District Medical Association will attend.

OWEN CARROLL, Secretary

BOOK REVIEWS

DISEASES OF THE THYROID GLAND by Arthur E. Hertzler, M. D., Chief Surgeon, Halstead Hospital, Professor of Surgery, University of Kansas, with a chapter on Hospital Management of Goiter Patients by Victor E. Chesky, M. D., Chief Resident Surgeon, Holstead Hospital. Third edition entirely rewritten. The C. V. Mosby Company, publishers. Price $7.50.

The new third edition, like the preceding ones, is an expression of the author's own exepriences and impressions in dealing with affections of the thyroid gland. A close contact with a large number of patients in the writer's own private hospital is responsible for many of the fundamental views on the subject. A series of drawings made by Tom Jones, illustrating the topographic anatomy and operative technic of the operations on the thyroid by the author has greatly enhanced the scientific value of the book.

FORUM

To The Editor:

I had a Maumanometer model by Waboun Co., N. Y., Kompak model, serial No. 160951. This was stolen. I missed it Saturday about the 12th inst. I thought some passing doper might try to sell it to some doctor. Would it be in order to mention it in the Journal? If so please do so and send me the bill. I will pay a reasonable reward for its return.

J. A. WELLS, M. D.,
Paintsville.

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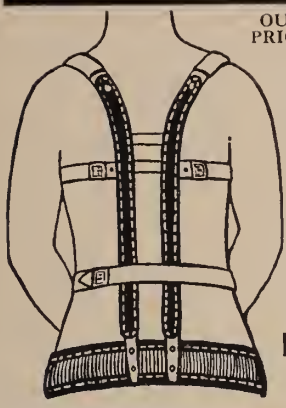
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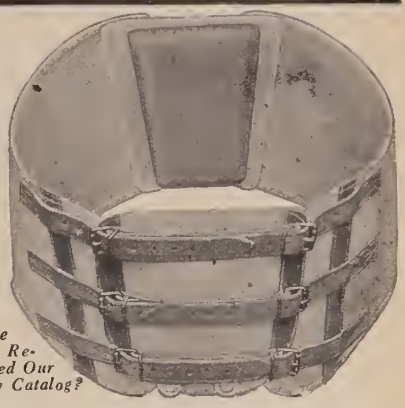
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Kentucky State Medical Association

1934-1935

ANNUAL MEETING, LOUISVILLE, SEPTEMBER 30-OCTOBER 3, 1935

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N. B.

"To the Stars Through Difficulties" serves no more appropriately, nor eloquently, for High School motto than for this issue of the Quarterly. Complexities and perplexities have been legion! But—at your service, here we are, breathless and eager for the New Year!

For lack of space, due largely to the rush to reach you on time, the A. M. A. and the S. M. A. Directories were omitted along with "Chatting," the Tuberculosis and the Jane Todd Crawford Pages.

We regret to record the resignation, because of imperative family responsibilities, of Mrs. Peter Guntermann, our excellent Business Manager. Also, of her successor, Mrs. J. Rivers Wright, because of illness. But, with much pleasure, we welcome our new Business Manager, Mrs. William H. Emrich, and confidently look forward to 1935 as the best year, yet, for the Quarterly.

THE PRESIDENT'S MESSAGE

Mrs. J. I. Greenwell, New Haven

It is a privileged joy, mingled with pleasure, which is accorded me of sending a message to you, through our Woman's Auxiliary Section. And to welcome each and every one to A Happy New Year of Prosperity and Real Endeavor.

The beginning of a New Year always arouses the imagination, and awakens thoughts for the future. We sincerely hope and trust that the advent of 1935 will suggest such a regular succession of thoughts, as may prompt us to put into action those good resolutions we made at the time of our State Annual Meeting, and make this year one of the most interesting and successful twelve months in the history of the Woman's Auxiliary to the Kentucky State Medical Association. And—before this year closes, may we hope to see, and fully understand, many things which now seem impossible.

Those of us who attended that Meeting, there added another picture, long-to-be-remembered, in our Book of Memories. Harlan was most hospitable and our Convention was replete with happy and profitable experiences.

Copies of "Our Code-Continued" which were approved by our Advisory Council and adopted at the Post-convention Board Meeting were mailed immediately following the meeting, to every member of the Auxiliary, including members of the State-at-Large. As there is a variety of opportunities suggested for possible achievement in this Code, we hope that the activities of each County, having its own possibilities for making its plans, will be governed accordingly.

To us, who are your officers and committee chairmen, there is entrusted a great responsibility, coupled with a deep sense of the honor that is ours. We are at your service, and ready to cooperate with you in any problem you wish to discuss.

Our heart-felt desire is that with our responsible County Presidents and interested Chairmen of standing committees, we continue a strong organization. "A good engine is composed of numerous parts, each one of which functions perfectly, so that the motor produces power through the coordination of its many elements. Inefficiency of any one of these parts will cause a great loss of power. What is true of the machine, is also true of the mechanism of any organization. The failure of one person or committee to do its part, retards the accomplishments of the entire organization." Therefore, let us continue to work along together as closely as possible, for "In Union there is Strength."

With this in mind, let us use our time wisely, make our plans carefully, and thank God for the opportunity to be of service to this noble profession, of which we are honored to be a part.



Mrs. J. I. Greenwell, New Haven, President

WOMAN'S AUXILIARY
To The
KENTUCKY STATE MEDICAL ASSOCIATION
Mrs. J. I. Greenwell, New Haven, President

OUR CODE
1934-1935
(Continued from 1933-1934)

O—ur Code, as outlined by our former President, Mrs. B. K. Menefee, will be continued, following the advice of our Advisory Council.

U—nite our efforts in furthering the aims of the medical profession to other organizations which look to the advancement of health and education.

R—emember the new project which lies before us—that of contributing to "The Doctor's Shop," Relics in medicine, books, instruments and furnishings used in pioneer times, are requested.

C—ounty Auxiliaries immediately file copies of their own Constitutions and By-Laws with the State Parliamentarian.

O—ur membership should be increased by re-enlisting former members and securing new ones. Membership in our organization is a privilege as well as an honor. Here, we learn the true value of the friendship of one another.

D—o all in our power to prevent Tuberculosis, and fight this dread disease. There are many simple rules for its prevention that we should pass on to those who have not had the opportunity of knowing this disease as we know it.

E—ach county wherever possible have the following Committee Chairmen:

Archives	Legislation
Child Health and Welfare	Organization
Doctor's Shop	Public Instruction
Finance	Public Relations
Historical Collection	Radio
Hygeia	Tuberculosis

Jane Todd Crawford Memorial

C—ooperate promptly with National Auxiliary recommendations and keep in close touch with the Southern Auxiliary. A study of the new envelopes on "Milk" and "The Prevention of Blindness" as suggested at the meeting of The American Medical Auxiliary, held in Cleveland this past June, is recommended.

O—ur State Medical and Health Laws should be one of the first subjects studied by each new Auxiliary. Then, these should be studied from time to time to keep up with the changes made by succeeding Legislative sessions.

N—otable Project is the Jane Todd Crawford Memorial. Let us make it the pride of women, not only of Kentucky women but of womanhood throughout the Nation.

T—o be guided in all State activities by our Advisory Council, appointed by the Kentucky State Medical Association. Each County Auxiliary to be guided by its County Advisory Council, appointed by the County Medical Society.

I—nterest ourselves in the collection of biographies of physicians, emphasizing the pioneers in our individual county units.

N—ews items, County Auxiliary activities and other items of interest in doctors' families should be sent to the Editor of the Woman's Auxiliary Section to the Kentucky Medical Journal before the first of December, March, June, September.

U—nity and Friendship through Fellowship should be promoted. This may be accomplished by assisting in the entertainment at County, District and State Meetings.

E—ndeavor to sponsor Child Health and Welfare programs, using Hygeia more effectively on these programs. Send Christmas box and sew for the Frontier Nursing Service.

D—evelop the Radio programs. The isolated parts of our country are in need of them,

-:- EDITORIALS -:-

From our National President, Mrs. R. W. Tomlinson, Wilmington, Del., we quote: "One great bond we have in common, one ideal that we hold highest among our earthly visions—The bond is that of participating in the practice of the noblest of professions; the ideal is that of using our services wisely and widely in the interest of mankind and proving ourselves true helpmates, both individually and collectively. Collectively, we are a strong force that may be of some use in a quiet way, to the medical profession. We, who know the unselfishness of these men of ours, can do much to enlighten a frequently misinformed public about the true character of medical work and its plans for public health and welfare. We can, in a non-aggressive way, offset much of the wicked propaganda constantly kept before an ignorant and deluded populace."

THE CORNELIAS AND THE ISABELLAS

A record in which all Auxiliary members may take pride is that of the Cornelias and of the Isabellas—those few ardent, active supporters of the medical profession who make this publication possible. The Cornelias are those who produce the reading matter—the headwork; the Isabellas are those who produce the necessary finances—to pay for the cost of publishing the reading matter; head work, plus. And—a rather large Plus, these lean years! It is real work to raise money for a new venture, now!

Beginning their project in October of 1931, when the Depression seemed Desperate, the Isabellas have found it no trivial task to raise approximately One Thousand Dollars, annually, through selling space in this Pioneer Publication, the Woman's Auxiliary Section of the Kentucky Medical Journal. A supplement to a medical journal, edited and financed by a "lay group" comes distinctly in the classification "rara avis" and particularly is this true when the "lay group" is composed of just wives, mothers, sisters, daughters and widows! But—the Kentucky State Medical Association wills it. Further comment would be superfluous.

Difficulties and unexpected handicaps have perplexed us all but, recognizing the responsibility placed upon the Auxiliary by the Council, these conscientious women, appreciating the duty that privilege always brings, have "held the line," wavering though it appeared, and made it possible for this January, 1935 issue to greet you on time. The complete budget is not yet in sight. But, confident that new allies bringing more advertisers will be added to their forces, the Isabellas—Abell, Barnes, Cohen, Emrich, Greenwell, Hendon, McCormack, Rogers, Turner, Wright are their other names—enter the new year of 1935 with high hopes that soon every Auxiliary member will know, with them, the joyour thrill of gratification which comes only with actual service such as they experience by securing an advertisement to help pay the cost of this publication requested by our Advisory Council.

THE JOURNAL FOR NOVEMBER AND DECEMBER

Any one interested in the pioneer physicians of Kentucky, Auxiliary members in particular, will find the November issue of the Kentucky Medical Journal a source of much information. Brief biographical sketches, each followed with additional references, are given for the 27 pioneers whose names appear on the memorial tablet placed at the door of The Doctor's Shop, close by the Mansion at the entrance to Pioneer Memorial State Park at Harrodsburg. Several illustrations, including pictures of some of the medical pioneers, are also given along with the complete program of the dedication ceremony of this medical memorial and of the banquet following together with all of the speeches available. Here, is a valuable addition to the historical volumes in your Kentuckiana Library.

The December issue of the Journal is full of meat. It is the report of the Association's Annual Meeting held in Harlan and should delight the heart of every wife of a Kentucky physician. Read it carefully and see for yourself. On page 639 in the Proceedings of the House of Delegates, you will find the splendid report to that Body of our President, Mrs. B. K. Menefee. The Proceedings of the Annual Meeting of the Auxiliary are contained, in part, in this issue of the Woman's Auxiliary Section of the January Journal, beginning on page 11.

GRAPHIC CONSIDERATION OF MEDICAL ECONOMICS

Medical economics is, today, the stirring subject in every group of medical men in the United States and Canada. The women of medical families should be no less concerned. Some discussion on this topic was heard at the Annual Meeting held in Harlan and the Advisory Council urged that Auxiliary members study this much debated subject and keep themselves informed as progress develops.

The Survey Graphic, a magazine of social interpretation published by Survey Association, Inc., 112 East 19th Street, New York, devotes its more than 60 pages in the December issue to a symposium on this subject entitled, Buying Health. Fourteen Nationally known authorities—physicians, dentists, nurses, economists, business men, social workers and other interested

health advocates—take part in this frank and forceful discussion which is amply illustrated with photographs, charts and graphs.

Resolutions passed by the American Medical Association, American College of Surgeons, American Dental Association; The Report of the Committee on the Cost of Medical Care (the Minority Report is also given), the plan For The Canadian Medical Association, now under consideration, are briefly given in the opening article—The Issue Of Health—by Mary Ross, R. N., Detroit.

Dr. R. G. Leland, Director, Bureau of Economics, American Medical Association (on the program of the Kentucky State Medical Association at their Annual Meeting in Harlan); Dr. F. G. Warnshuis, Speaker, and Dr. Nathan B. Van Etten, Vice-Speaker of the House of Delegates, American Medical Association; Dr. C. E. A. Winslow, Professor of Public Health at Yale University; Mr. E. A. Filene, Boston Merchant; Wm. T. Foster, Economist, and others who speak with authority add illuminating paragraphs.

The concluding article—The Way Of Security—is contributed by Frances Perkins, Secretary of Labor in the President's Cabinet and Chairman of the Cabinet Committee on Economic Security.

For Study Classes, this issue of the Graphic provides excellent subject matter for the winter's work. Current newspapers will, doubtless, add new material as developments proceed. But—let us keep in mind, always that **action** by the Auxiliary is to be undertaken **only** upon the advice of its own Medical Association.

PROGRAMS FOR MEETINGS

Mrs. C. A. Menefee, Covington

As to suggestions for programs for our meetings, of the County Auxiliary: I believe that one meeting should be designated as a Hygeia meeting. The principal paper could be a review of any article which appealed most to the speaker, preferably the Hygeia Chairman, and each member asked to answer roll call with the gist of some article she had seen in Hygeia. Another meeting might feature Jane Todd Crawford and another, The Doctor's Shop, in much the same way.

Then, by all means, we should have a meeting featuring the need of work and co-operation in providing free beds for T. B. patients. We had a good T. B. speaker in October and are planning to "do something about it."

February, with its Valentine day, Washington's and Lincoln's birthday, etc., would be an excellent time to give some sort of party to raise money for some of our projects. And—a meeting devoted to a study of some of the articles in our own Auxiliary Supplement could be made interesting, and might inspire each of us to be more active to help the good work along.

PRESIDENTIAL ADDRESS*

Mrs. J. I. Greenwell, New Haven

While considering the great honor I knew would be conferred upon me at this meeting, that of becoming the President of the Woman's Auxiliary to the Kentucky State Medical Association, I also thought of the task involved, and it seemed to grow larger and larger, until finally it loomed above my horizon of thought like some dirigible, about to explode. Finally, my thoughts wandered back to the days of the old colored preacher, in his little church in the South, when he had for his text: "Use what is in yo' hand." This is what he said: "The Lord spoke to Moses, and He said: "Moses, I have picked you to lead my people out of Egypt. Go to the elders of the children of Israel and bid them make ready to leave this land of Egypt, and go to Pharoah, and say that to the elders." Moses answered: "They won't pay any attention to anybody like me. Nobody knows me, Lord, I can't do a job like that." "But," said the Lord, "I am Thy God, I will go with thee." "I know that, Lord, I know that, but I have no credentials, nothing to show to the people I am their leader." Then the Lord said to Moses: "Moses, what is in your hand?" Moses answered: " 'Jes-a rod Lawd"—And the Lord said: "Cast it on the ground." And Moses cast it on the ground where it became a serpent! Then the Lord commanded Moses to pick it up. He did. It became a rod again! Then the Lord said: "Show this to the elders and it shall be unto them a sign." So Moses took his rod and his courage, and went forth to accomplish his task.

Then, the question came to me. "What is in **your** hand?" And the answer flashed back like a glorious blazing light:

Two Thousand of the Finest Women of the Land! Members of the families of Kentucky physicians—their wives, daughters, mothers, sisters, widows. What more could I ask? Just that they all, each and every one, be active members of our Woman's Auxiliary to the Kentucky State Medical Association.

We, as wives of physicians, speak the same language, have similar experiences, the same interests and ideals to uphold, and we each need courage and inspiration. Cooperation among us is essential. It is the keynote to success collectively and individually, in such a period as we are living today. My ability to serve you will be governed largely by your own whole-hearted active cooperation and constructive counsel.

As your President-Elect, I have tried to cooperate with many members of the Auxiliary, and asked for their help and advice. Much correspondence has passed between us and I have really endeavored to educate myself for the ideals for our work the coming year. My ex-

*Address delivered following Installation as President, October 3, 1934, at Annual Meeting, held in Harlan.

perience has been of a pleasant nature and has made me more appreciative of Auxiliary aims.

To our President, Mrs. B. K. Menefee, and to Mrs. A. T. McCormack, who have given so generously of the benefits of their past experiences, we owe a deep debt of gratitude; also to the officers, Past Presidents of the Executive Board, and Committee Chairmen for their unselfish way of handling the past year's work. To Mrs. Menefee, especially, do we owe this debt of gratitude for her year of accomplishment under many unlooked for handicaps.

It is sometimes difficult to think of new ways of putting over an old story. But the work of the organization must go on. And, as we, the "Wives of Doctors" have an immense "latent power," let us use it. Considering the strength of our organization and the power possessed by each individual member, we should prove equal to any task.

Ethel Barrymore said in an article published a few years ago: "Women have never had such richness of expression, such power of growth as they have today." Women are thinking, feeling, growing with a rapidity, unparalleled in their history. They realize the tremendously worth-while things, that can be accomplished through their new growth, their ability to give something of value in partnership.

As one woman said in a recent meeting of a State Auxiliary: "The minister's wife and the doctor's wife have always been in the background. I am glad to join a society where we silent partners may at last stand forth and do something as a group." So, as a band of earnest, silent partners, we have come into this larger group, to give something of actual value in partnership to the Kentucky State Medical Association. But, in order to bring perfection to this great partnership, each member must realize that with her, rests the responsibility of achievement. Therefore, I give to you the message which came to me, "Use What Is In Yo' Hand."

The advice of our Advisory Council, and of our Retiring President, Mrs. Menefee, is that we continue "Our Code," already outlined and initiated in several Counties. Time has been too brief to work out all the perplexing problems that yet remain. So, let us pick up the broken threads and carry on the work already outlined as far as we can.

The year 1934-1935 will see advanced our new project around which we will rally as an organization. I refer to "The Doctor's Shop." A privileged joy in which we should all delight to participate, will be the furnishing of this Memorial to the pioneer physicians.

As to the Auxiliary Section of the Kentucky Medical Journal, our own publication, let each member read, from cover to cover, advertisements included, our quarterly supplement to the Kentucky Medical Journal, which we are privileged to publish. And, not only read it, but contribute to its columns, so that the rest of us may know the good things that each is doing, that you are doing in your counties. And—most important—assist in its financial support, either by donation, the securing of paid advertisements, or other means.

National plans for the coming year, as outlined by our Retiring National President, Mrs. James Blake, of Hopkins, Minnesota, at a meeting during the Convention of the American Medical Association held at Cleveland in June, were to this effect: That we use Hygeia more effectively on our Health Programs. Also make use of the new Study Envelopes on "Milk" and on "The Prevention of Blindness," along with the old envelopes. Each State should set apart sufficient money to buy literature advocated by the National Auxiliary.

We sincerely hope and trust that each and every member of our Auxiliary will continue as leaders in the great campaign organized under the slogan: "Tuberculosis Robs You, Public Health Protects You." Our support in this movement, will count.

One of the difficulties that all State Officers and Chairmen encounter, is that County Presidents and County Chairmen do not respond promptly to their letters and requests. May I urge that this condition no longer continue? Just to illustrate what I mean, let me quote from a recent letter received from a State Chairman: "However, if I should keep the work for another year, I would like to ask a special favor of you. I have been hindered considerably, and the task has been made harder because some of the local Chairmen have not responded to my requests. Most of them have been splendid; but a few have given my letters no consideration, and I have been forced to proceed in an indirect way, to gain whatever information I have been able to publish in my reports. This, I feel, is unfair. And, in accepting the position for another year, if you still feel I should, I beg you to urge every local President to see that her Chairman is interested in our particular project, and will make an earnest effort to carry on our programs through their particular organization. And, above all, to answer letters when they receive them."

Our Public Relation Committees are very important. It is through these committees that the laity can be be made to realize that when a doctor urges a health examination, he is **not** doing it in view of collecting a fee, but in eagerness to help people stay well, rather than become well. We wives can carry this message of preventive medicine into our clubs. We can see to it that when a health talk is given, in various clubs, it is by a regular doctor. "Quacks and irregular doctors have the publicity advantage over the ethical and regular doctors,

for they can and do advertise. Advertising is beneath the dignity of a man belonging to the profession of medicine, but publicity of the right kind is legitimate, and necessary, in order to protect the laity." The medical profession of today needs publicity, not individual publicity, but collective publicity that is for the profession as a whole and which includes every doctor and doctor's wife throughout the length and breadth of our land.

Regarding our Historical Collection, if we continue to work, I hope it will not be long before a manuscript will be published in book form and be on the shelf of every school and public library.

Also, that the Jane Todd Crawford Memorial will cease to be a dream but shall be helping, in some way, to lighten increasingly the burdens carried by unfortunate human beings.

In conclusion, may I, in addressing the newly elected officers, say that your duties as well as mine will come to us each day, and we will attempt to fulfill them guided by the lessons of the past through the channels of experience, the greatest of all schools, rather than through cold formalities or set phrases. Let us do our duty, as we understand it, and the reward will be the gratitude of those we serve. Then, if, as Shakespeare remarked: "All the world's a stage and all the men and women merely players," in the drama of mixed tragedy and comedy composing our lives, let us resolve to act well our part, for there all honor lies. And, at this finale of our last year's work, this very pleasant and profitable Annual Meeting, let each remember that her own County Auxiliary is her own stage. We, You and I, are the players. The new drama is waiting for us, you and me, to take our parts. The curtain is slowly rolling and unfolding on a New Year. As your chosen Stage Manager, you will find me ready to prompt your work, shift the scenery, start the orchestra, or any other thing I can possibly do to help make this year one continuous success for the Woman's Auxiliary to the Kentucky State Medical Association.

THE DOCTOR'S SHOP

Mrs. George A. Hendon, Chairman

In taking up a new project it is often difficult to know just how and where to start, but since the Doctor's Shop came into being at the dedicatory services in Harrodsburg on June 21st, 1934, it is now well advanced in its first year of existence.

If every member of the State Medical Association, and its Auxiliary will cooperate, the venture will be a success. We are asking for relics in medicine, old books, instruments, and furnishings used in pioneer times, such articles contributed to be censored by the Advisory Committee of the Woman's Auxiliary—Dr. C. A. Vance, Dr. A. T. McCormack and Dr. V. A. Stilley, and the President of the Kentucky State Medical Association, Dr. C. C. Howard.

We are pleased to announce that Mrs. Lafon Riker, Harrodsburg, has consented to take charge of the local work, of the Doctor's Shop, and any articles forwarded direct to her will be passed upon by the Committee, and if deemed suitable will be placed in the Shop under Mrs. Riker's supervision. Those not acceptable will be returned to the donor.

We feel sure articles which would be appropriate are just waiting to be rooted out of attics or storage places and forwarded to the Doctor's Shop in Harrodsburg. May we hope for your cooperation?

From Our Harrodsburg Chairman
Mrs. Lafon Riker

In Pioneer Memorial State Park, Harrodsburg, Kentucky, situated between the beautiful Mansion Museum and the stately Colonial Gateway is this quint little one room brick building recently assigned by Governor Laffoon to the Medical Association of Kentucky, for an old time Doctor's Shop. This is another interesting unit added to the many historical attractions at the Park.

This little building has been dedicated to the pioneer physicians of Kentucky, who in the 18th century brought the art and science of medicine into the Western wilderness. Soon after the arrival of Harrod, Logan and Boone, fort-builders, came the pioneer doctor into the wilderness. Very different from our physician of today in ways and methods, but in heart the same. He traveled an unbeaten path to the forts, stations and isolated cabins and wherever his services were needed. His drugs were the herbs and bitters gathered and compounded by his own hands. His instruments were, indeed, few and crude. Without nurses he called upon the nearest neighbor to help in time of need. Of this world's goods and earthly comforts, he had few. But, he has left a heritage of service, love, trust and honor.

The Woman' s Auxiliary of the Kentucky State Medical Association will have supervision of this building. Here, will be seen the typical old "Doctor's Shop" in furnishings, relics in medicine, instruments and books. It will, indeed, be an interesting place to visit.

The committee in charge is asking for contributions for this Shop, for cases in which to keep the relics and also for ideas for furnishing the little office where the atmosphere of an old time doctor's shop may be felt.

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CHILD HEALTH AND WELFARE

Mrs. Philip F. Barbour, Louisville, Chairman

Friends O'Mine:

See what two of our members have sent to share with you through the Quarterly! What may I have from you to share with them? May I not hear from you, soon?

Hopefully yours,
(Mrs. Philip F.) Elizabeth Akin Barbour

TRUE STORIES ABOUT CHILDREN

Mrs. John C. Rogers, Louisville

Trusting

The timid mother had heard of an accident at the playground. Every day she cautioned her two boys over and over again. And, sometimes she would become so uneasy that she would go to the playground to see if her boys were all right.

One day the timid mother happeneed to notice that her little sons were slipping oil paper into their hip pockets. On asking the reason, she was told that, when they sat on the oil paper they could skim down the sliding-board faster than any of the children.

The timid mother (with horrible accident visions confronting her!) made the boys give to her the choice pieces of oil paper.

As they were leaving, one of the boys said to the other—"We must be on time. You see, Mother, Miss Jones, the director, has put Bobby and me in charge of our group because she says we can be trusted. She says we are 'alert' and 'know what we are about when we do things' ".

The timid mother handed the choice pieces of oil paper back to her little sons.

"After all," the timid mother smiled, bravely, "Maybe you need to set the pace when you are in charge. There's plenty more oil paper in the box."

Training

Billy and Jimmy had been saving and saving for a long, long time. Their father had promised them he would double the amount when they had one hundred dollars in their joint savings account.

The boys were informed by the "Man-At-The-Window" that they had Ninety-Five Dollars. And they were grinning at each other because they knew, as well as the man.

As they were turning away from the window, Billy and Jimmy spied a five dollar bill, forlorn and neglected on the floor.

No one witnessed the act as the boys picked up the bill.

A whispered colloquy ensued.

Billy: "If we can just have this Dad will double our hundred. Oh, boy!"

Jimmy: "It is ours, isn't it? We found it."

The children decided to call their mother over the telephone to settle the matter.

However, both halted before the phone was reached. Both shook their heads. Both remembered the time that they had found a bag of cement where some careless workmen had left it, temporarily, in a vacant lot nearby a newly built house; how they had dragged the heavy bag of cement all the way home and how Mother and Dad had made them drag it all the way back just to show them the difference between "mine and thine." Cement is heavy, too.

No, The father did not present them with another five dollars for their honesty in handing in, at the window, the five dollars they found (which was afterwards handed to its owner.) No. He just said, "O, well, a little more work will be good for two strong boys like you." And—that was that.

TO A YOUNG DOCTOR

Viola Cawood Flowers, Worley, Kentucky

Above a bed I see you bend
To touch a fevered brow.
I see the look upon your face
I hear your whispered vow
To bring this child out of her pain
Back to those happy days
That she may romp and play again
Along life's bright highways.

With patient, tender, loving hands,
Such as only you possess,
I see you touch the little form—
The touch seems a caress,
So steady and so sure you are
The child smiles up at you!
Her friendly trust she gives to you—
Assured you'll pull her through.

'Tis such a beautiful thing to see
You at your work, just now!
To see you relieve the suffering,
To hear your whispered vow
To bring to every living thing
The relief that is yours to bring.
You make us proud of you, my dear,
And cause our hearts to sing.

This poem was written by Mrs. Flowers and lovingly dedicated to her brother, Dr. C. D. Cawood and to her husband, Dr. S. H. Flowers, both of whom graduated at the University of Louisville on the same day and later, on the same day, entered different branches of the practice of medicine—the former, public health, the latter, general practice.

HISTORIAN'S CORNER

Mrs. V. A. Stilley, Benton, Chairman

The Harlan Meeting—what a happy one it was! Not only because we loved the association of our old friends and the pleasure of making new ones in Harlan, not only because of all the delightful teas, luncheons and drives over the mountains, where, in each of these, we mingled together in happy friendliness! These were, truly, most delightful occasions and will live long in the memories of those who were fortunate enough to be there.

To one and all of our good friends in Harlan we send the Happiest Greetings for the New Year, with a sincere wish that 1935 brings you as much joy as you gave to the members of the Auxiliary to the Kentucky State Medical Association, while your guests at our Annual Meeting.

Aside from all the delightfully pleasant hours we spent socially, we really had a fine meeting, a good attendance! (And will you forgive us if we seem a little boastful when we say that we were proud of the number from West Kentucky? The "Old First" rolled up a larger number in attendance than any other District, save that which includes Harlan and adjoining counties).

And, our "big thrill" came when we were able to pass on to the Kentucky State Medical Association one hundred and twenty -eight biographies of pioneer doctors of the State. This was our first contribution. We have been working a long, long time for these. So many counties though are not yet included in these biographies! Won't you please see to it that some biographies are sent in from your county this year?

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PROCEEDINGS OF THE TWELFTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT HARLAN, KENTUCKY, OCTOBER 1-4, 1934

The Twelfth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association opened at 9:00 A. M., Monday, October 1, 1934, at the Methodist Episcopal Church, Harlan, with registration in the lobby.

Due to the late arrival of many members,the ten o'clock study class was postponed and combined with the Round Table Conference at 2:00 P. M. Monday, with Mrs. L. Lyne Smith, Louisville, presiding.

Two Book Reviews were given: The Joy of Living, An Autobiography of Dr. Franklin H. Martin, by Mrs. P. E. Blackerby, Louisville, and Henry James Foreman's book, Our Movie Made Children, by Mrs. Emmet F. Horine, Louisville. This was followed by Mrs. Horine's discussion on The Tensions of Childhood, in the Home, School and Recreation. Special consideration was given to the effect of movies on children and their sleep; also, the work of the Better Films Council. Mrs. A. T. McCormack, Louisville, and Mrs. J. I. Greenwell, New Haven, added to this discussion.

Dr. Lillian H. South, Louisville, gave a very interesting talk on Poliomyelitis, explaining the spread and care of this disease. The discussion of this subject was led by Mrs. Emmet F. Horine. Mrs. L. Lyne Smith closed the discussion and announced that the Pre-convention Board Meeting would be held immediately.

Pre-Convention Board Meeting

The Annual Pre-convention Board Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held in the Methodist Episcopal Church, Harlan, on Monday, October 1, 1934, at 4:20 P. M. The President, Mrs. B. K. Menefee, Covington, presiding. A quorum was present (10). The invocation was given by Rev. Carl E. Vogel, Pastor of the Methodist Episcopal Church, Harlan.

The motion carried that the minutes of the Post Convention Board Meeting of the Eleventh Annual Meeting held at Murray, September 14, 1933, be dispensed with, having been printed in the Quarterly for October, 1933.

The Nominating Committee was elected as follows:

Chairman—Mrs. Luther Bach, Bellevue,
Mrs. W. M. Martin, Harlan,
Mrs. A. D. Steely, Bardstown
Mrs. P. E. Blackerby, Louisville,
Mrs. H. H. Hunt, Mayfield.

A meeting of the Nominating Committee was called to follow immediately at the close of the Board Meeting.

The Resolution Committee was appointed by the President, with Mrs. George A. Hendon, Louisville, Chairman; other members were: Mrs.

C. A. Menefee, Covington, and Mrs. A. W. Davis, Madisonville.

Brief reports were made by Officers and the Chairmen. The Jane Todd Crawford Memorial Chairman, Mrs. A. T. McCormack, recommended that the Kentucky Auxiliary give to the Southern Medical Auxiliary the Memorial Fund collected as a nest egg for a Jane Todd Crawford Memorial, so that it might encourage and be a stimulus to this project, already accepted by the Southern States.

Collections and disbursements of the "Supplement to the Kentucky Medical Journal" show all bills paid to September 1st and a bank balance of $14.75.

A verbal report on the Woman's Auxiliary Section of the Kentucky Medical Journal, made by the Editor, was followed with an urgent request that all Auxiliary Members help shoulder some of the financial problems of the "Supplement."

Motion carried that the Board recommend the change of title of Historian to Chairman of Historical Collections.

A motion carried that the Auxiliary buy a safety deposit box in Louisville for the valuable records of the Auxiliary.

Adjourned 5:20 P. M.

(Mrs. W. T.) Virginia Little
Recording Secretary

President's Report

The President, Mrs. B. K. Menefee, appeared before the House of Delegates at 8:00 P. M., October 1st, and presented her report of the work of the Auxiliary for the past year. The report was highly complimented and unanimously approved by the house.

(See Minutes of the House of Delegates, Kentucky Medical Journal. December. 1934, p. 639).

Minutes of the Annual Meeting

First Session

The General Business Meeting of the Twelfth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was called to order in the Methodist Episcopal Church, Harlan, at 10:00 A. M., Tuesday, October 2, 1934, by the President, Mrs. B. K. Menefee, Covington. A quorum was present. Seventy members were seated at the opening of the session.

The singing of "America" in unison was led by Mrs. William E. Riley, Harlan. Invocation was offered by Rev. Carl E. Vogel, Pastor of the Methodist Episcopal Church, Harlan. The Address of Welcome was given by Mrs. Joseph W. Nolan, Harlan. The response was made by Mrs. L. Lyne Smith, Louisville.

Roll Call showed seven officers, six committee chairmen, six county presidents, and eight delegates present.

The Report of the Chairman of the Committee on Arrangements was made by Mrs. Joseph W. Nolan, Harlan.

The Report of the Chairman of the Committee on Credentials and Registration was made for Mrs. Clark Bailey, Harlan, by Mrs. Joseph W. Nolan, who reported 92 members had registered.

Upon motion of Mrs. George A. Hendon, the reading of the Minutes of the Eleventh Annual Meeting was dispensed with as these had been published in the October 1933 issue of the Auxiliary Section.

Greetings and messages from the Kentucky State Medical Association were brought by W. M. Martin, M. D., Louellen, President; A. T. McCormack, M. D., Louisville, the Secretary; W. E. Gardner, M. D., Louisville, Chairman of the Advisory Council; and, V. A. Stilley, M. D., Benton. They highly commended the work of the Auxiliary and the success of the Supplement to the Kentucky Medical Journal, which was "rated one hundred per cent among the physicians." Dr. Gardner was enthusiastic in his commendation of the Supplement. Dr. A. T. McCormack urged that the Auxiliary give more thought and consideration to the report made by Dr. R. G. Leland, Chicago, Director, Bureau of Medical Economics, American Medical Association, on Medical Economics and Social Insurance, then, organize in the different Auxiliaries, clubs, etc., for study of this problem.

Enthusiastic approval of securing historical data concerning our State Pioneer Doctors and

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their possessions was voiced by the Advisory Council, particularly the recent work for the memorial tablet and dedicatory program of the Doctor's Shop.

The President's report was made by Mrs. B. K. Menefee, with the Junior Past President, Mrs. A. T. McCormack, in the chair. A rising vote of thanks for her work was given Mrs. Menefee following a personal tribute from the chair. The President's report of the Administrative office was linked with the report of the Editor of the Quarterly. A vote of thanks was enthusiastically given Mrs. McCormack in appreciation of her splendid work as Editor. Copies of these reports were received and filed.

Reports of the following counties were made by the Presidents or Delegates:

Ballard-Carlisle
Calloway
Campbell-Kenton
Graves
Harlan
Jefferson
Marshall
Mercer
Nelson
Perry
Samson-Community Hospital

On motion these reports were received and filed.

Telegraph messages of regret for absence were received from Mrs. Ruby Laffoon, Frankfort and Mrs. E. B. Houston, Murray. These were read by the Secretary.

In Memoriam was given by Mrs. Luther Bach, Bellevue.

Recess.

(Mrs. W. T.) Virginia Little,
Recording Secretary

Informal Luncheon

An informal subscription luncheon was enjoyed at the Hugh Jones Cafe at 12:30 P. M., Tuesday, October 2nd, with a delightful musical program provided by local artists, under the direction of Mrs. Joseph W. Nolan, Harlan.

The President's Tea

A most enjoyable drive over the mountain to Lynch was followed by a tea at the Lynch Hospital, given by Mrs. C. R. Petty, Lynch, assisted by her friend, Mrs. W. T. Shackleton, Charleston, West Virginia, honoring Mrs. B. K. Menefee, President, and Mrs. J. I. Greenwell, President-Elect. Delicious refreshments were served while guests viewed the beautiful, colorful autumn scenery of the mountains, facing the hospital on either side. This was followed by a trip through the modern, well-equipped Hospital at Lynch, one of the largest coal mining centers in Kentucky.

Public Address

Members of the Auxiliary attended the public meeting held in the Auditorium of the Harlan Baptist Church, Tuesday evening, October 2nd, when C. C. Howard, M. D., Glasgow, made his Presidential Address, an illustrated historical lecture on Kentucky pioneer problems, concluding with a dramatic appeal for funds from the physicians and their patients for the erection of a memorial to Jane Todd Crawford, to stand beside that of Dr. McDowell in Danville. Dr. Howard was assisted in collecting the funds by several High School girls in costume while the Church Chorus, under the leadership of Miss Kate Allen sang Foster melodies, with Mrs. Elmer Hall at the organ. This was followed by an address on Cancer of the Uterus, by Louis Frank, M. D., Louisville.

Minutes of the Annual Meeting
Second Session

The Second Session of the General Business Meeting of the Twelfth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held in the Methodist Episcopal Church, Harlan, at 10:00 A. M., Wednesday, October 3, 1934. The President, Mrs. B. K. Menefee, presided. A quorum was present, (54). Mrs. Southgate Leigh, Norfolk, Virginia, President of the Southern Medical Auxiliary was introduced to the body and seated on the rostrum.

Reports of the State Officers and Committee Chairmen were made, accepted and filed as follows:

President-Elect,
Corresponding Secretary.
Chairman of Organization, reporting for all Vice-Presidents,

The report of the Treasurer, Mrs. Curt H. Krieger, was read and adopted with a vote of thanks.

The Report of the Finance Committee Chairman was presented by Mrs. R. L. Collins. This was followed by discussion and the adoption of a motion that the statement forms be printed. Reports were received and filed from the following committee chairmen:

Archives—Mrs. George A. Hendon, Louisville,
Child Health and Welfare—Mr. Philip F. Barbour, Louisville,
Hygeia—Mrs. E. R. Palmer, Louisville,
Legislation—Mrs. L. L. Washburn, Benton,
Tuberculosis—Mrs. Lucious E. Smith, Louisville,

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Jane Todd Crawford Memorial—Mrs. A. T. McCormack, Louisville.

Free discussion developed on the Jane Todd Crawford Memorial project. A motion carried that the Kentucky Auxiliary hold in trust and add to the fund now being collected as a One Thousand Dollar nest-egg for a Jane Todd Crawford Memorial until other states manifest their interest and cooperate by raising a like amount. The Kentucky Auxiliary will then offer its fund to the Southern Auxiliary to be used in their joint project of erecting a memorial to Jane Todd Crawford. Mrs. Irvin Abell, Mrs. Wm. E. Fallis, Mrs. George A. Hendon, and Mrs. V. A. Stilley joined in discussing and amending the above motion.

The Historian's report by Mrs. V. A. Stilley, Benton, was accepted and filed.

Mrs. Robert W. Tomlinson, Wilmington, Delaware, National Auxiliary President, arrived and was introduced to the body and seated on the rostrum. Mrs. Tomlinson brought a message of the splendid cooperation of State Auxiliaries to the National and news of the National Board Meeting held in Chicago recently and of the new Constitution and By Laws now ready for adoption by the National Auxiliary, at the next Annual Meeting in Atlantic City next June.

For the Doctor's Shop at Harrodsburg, Mrs. V. A. Stilley presented an old historical instrument belonging to her father, Dr. Robert Coleman, of Calloway County, Kentucky. Mrs. J I. Greenwell presented a rare old volume with backs made of wood and printed in 1700. Mrs. A. T. McCormack presented more Historical Volumes, 12 old medical bottles and instruments and Mrs. B. K. Menefee an old lance.

The Doctor's Shop, a Memorial in Pioneer Park at Harrodsburg, was dedicated by the State Medical Association, June 21, 1934. (See Kentucky Medical Journal, November 1934). It is to be furnished with old relics as an old-time Doctor's Shop. The Auxiliary was asked by the Medical Association to help find and select suitable furnishings.

The Report of the Delegate to the Woman's Auxiliary American Medical Association 1934 Annual Meeting was presented by Mrs. J. I. Greenwell, New Haven, accepted and filed. Report of the delegate to the Woman's Auxiliary Southern Medical Association 1933 in Richmond, Virginia, was presented by Mrs. A. D. Steely, Bardstown, accepted and filed.

Report of the Business Manager of the Supplement, Mrs. Peter Guntermann, was given by the Editor, Mrs. A. T. McCormack, as Mrs. Guntermann was absent; accepted and filed.

The Report of the Resolutions Committee by Mrs. George A. Hendon, Chairman, was presented as follows:

RESOLUTIONS

Whereas, The Twelfth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association will soon have completed one of its most successful and enjoyable meetings, And,

Whereas, We consider the citizens of the City of Harlan deserve much credit for its success by their delightful hospitality, as well as by sharing with us the beauties of their mountains, thus giving us pleasant memories that will help us to carry on in these troubled times, Now,

Therefore

Be it resolved, That we extend to them our sincere thanks for all their courtesies and kindnesses. Especially do we desire to thank Mrs. Joseph W. Nolan for her gracious welcome, the Press of Harlan for their generous publicity, and the following Chairmen of Committees who have been most helpful:

Arrangements, Mrs. Clark Bailey; Credentials, Mrs. W. R. Parks; Music, Mrs. Wm. E. Riley; The Pages who have served so faithfully; And all others who have contributed in any way to the success of the meeting. We wish to thank all the ladies who made possible the wonderful drive to Lynch, and to Mrs. Petty who graciously entertained with a charming Tea which made such a perfect ending for the drive. Also, to Mrs. Herbert C. Smith who so delightfully entertained us at Tea in her beautiful home on Wednesday afternoon.

Whereas, Because of the continued depression we must work harder than ever before to keep afloat the projects which are dear to our hearts, Now,

Therefore, Be it resolved, That we carry with us from this meeting sufficient enthusiasm to meet and overcome all difficulties in our pathway, and go to our Annual Meeting next

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year with better reports on our favorite projects, viz: Jane Todd Crawford, Hygeia, Tuberculosis, The Kentucky Medical Journal, Woman's Auxiliary Section, Child Health and Welfare, and the new project, The "Doctor's Shop."

Whereas, The members of our medical profession are facing a crisis in the so-called Health Insurance movement which will require all their skill and diplomacy as well as hard work to overcome, Now, Therefore, Be it resolved, That we do our part in this titanic struggle by informing ourselves of the true meannig of this socialization of medicine and aid in disseminating this knowledge among those who are well meaning but uninformed.

Whereas, The affairs of the Auxiliary have been so conducted this year as to cause us to take a great deal of pride and pleasure in the splendid reports that have been read here, Now, Therefore, Be it Resolved, That we tender our warmest thanks to our entire corps of State Officers, especially to our presiding officer, Mrs. B. K. Menefee, who has, in the face of tremendous difficulties, crowned her year's work with such wonderful success.

Mrs. George A. Hendon, Chairman
Mrs. C. A. Menefee,
Mrs. A. W. Davis.

The report was adopted unanimously. The final report of the Chairman of Credentials and Registration shows a total attendance of 110 members and several visitors.

The Report of the Nominating Committee was presented by Mrs. Luther Bach, Bellevue, Chairman. Nominations from the floor were called for. None were offered. A motion that the nominations be closed, carried. A motion carried that the Secretary cast the ballot, whereupon the following were declared elected unanimously:

President—Mrs. Joseph W. Nolan, Harlan,
1st Vice-President—Mrs. A. D. Steely, Bardstown,
2nd Vice-President—Mrs. W. E. Fallis, Louisville,
3rd Vice-President—Mrs. E. E. Smith, Bardwell,
4th Vice-President—Mrs. H. C. White, Covington,
Recording Secretary—Mrs. W. T. Little, Calvert City (re-elected)
Treasurer—Mrs. Curt H. Krieger, Louisville, (re-elected)
Parliamentarian—Mrs. George W. Brock, London, (re-elected)

The newly elected officers were called to the platform and introduced by the President. Mrs. J. I. Greenwell wa installed as the President for the coming year and Mrs. Menefee presented the gavel to Mrs. Greenwell. Following her acceptance speech, Mrs. Greenwell announced that her daughter, Miss Kathleen, had accepted the office of Corresponding Secretary.

Adjourned sine die at 12:15 o'clock noon.

(Mrs. W. T.) Virginia Little,
Recording Secretary

ANNUAL LUNCHEON

The Annual Luncheon of the Woman's Auxiliary to the Kentucky State Medical Association was held at 12:30 P. M. Wednesday, October 3rd, at the Baptist Chuch. This Luncheon was given with the compliments of the Kentucky State Medical Association to its Auxiliary. The acting hosts were: The President of the Kentucky State Medical Association, C. C. Howard, M. D.; Retiring President, Wm. M. Martin, M. D.; Secretary, A. T. McCormack, M. D.; Member of the Advisory Council, V. A. Stilley, M. D. The honor guests were: Mrs. Robert W. Tomlinson, Wilmington, Delaware, President of the American Medical Auxiliary, and her Corresponding Secretary, Mrs. Robert Jones, also from Wilmington; Mrs. Southgate Leigh, Norfolk, Va., President of the Southern Medical Auxiliary, all of whom brought inspiring messages. Mrs. B. K. Menefee presided as Toastmistress. introducing Mrs. Joseph W. Nolan, who presented several local artists who entertained with musical numbers.

The outstanding feature of the program was the splendid address of Mrs. Mary Breckinridge, R. N., Volunteer Director, Frontier Nursing Service, Inc., Wendover, whose subject was interesting and appealing to each of the Auxiliary members and guest listeners. Among other things, Mrs. Breckinridge said: "You will be interested in the facts and procedures of our nursing service, our equipment, and our means of travel—that of horseback over the wide area of

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seven hundred square miles, often fording many swollen streams. The total number of patients treated the past year amounted to 6,793 in 1,345 families. The death rate in the area of the Frontier Nursing Service has been considerably decreased during the past year, especially among prenatal mothers. A number of international visitors have been in Eastern Kentucky the past year observing the Frontier Nursing Service." Mrs. Breckinridge urged that more thought be given to the isolation of these mountain people and their helplessness. One of her suggestions of helping these people in a very material way was to open the beautiful mountain scenery, the fishing and remote lake resorts to the tourists from the outside world. "Then these remote people might become better educated by coming in touch with the outside world, thereby learning to give and take in their almost isolated world. Kentucky has much beautiful scenery in this part of the State that could be offered to the traveler!"

She appealed for help from the Auxiliaries for more layettes, books, clothing, and Christmas toys. Special mention was made of phonograph records of Christmas Carols. Mrs. Breckinridge has given the Auxiliary an opportunity whereby all members may help the Frontier Nursing Service to aid these people by lessening their hardships.

Post Convention Board Meeting

The Annual Post Convention Board Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held in the Methodist Episcopal Church, Harlan, Wednesday, October 3rd, at 4:45 P. M. The President, Mrs. J. I. Greenwell, presided with a quorum present, (12). Following the invocation the list of appointees for Committee Chairmen was presented by the President. These were approved. Approval was unanimously voiced for buying a Safety Deposit Box in Louisville for safe keeping of any records of value to the Auxiliary. The President offered her program for the following year in the form of a continuation of the Code devised last year. The program was adopted unanimously. It will continue to be known as the Code of the Woman's Auxiliary to the Kentucky State Medical Association. Copies of the Code will be mailed to County Presidents immediately.

Adjourned 5:45 P. M.

(Mrs. W. T.) Virginia Little,
Recording Secretary.

Tea Honoring New Officers

Honoring the President, Mrs. J. I. Greenwell, New Haven, the newly elected officers and special guests, Mrs. Robert W. Tomlinson, Wilmington, Delaware, President American Medical Auxiliary; Mrs. Southgate Leigh, Norfolk, Virginia, President Southern Medical Auxiliary; and, Mrs. Robert Jones, Wilmington, Delaware, Corresponding Secretary of the American Medical Auxiliary, Mrs. H. C. Smith, Harlan, entertained with a delightful tea in her beautiful home among the scenic mountains. A musical program was enjoyed while refreshments were being served. Guests renewed acquaintanceship among old friends, and made new ones, among the gracious women of Harlan who made our visit so pleasant.

The Banquet

Members of the Auxiliary were invited, with other friends and guests, to attend the Annual Banquet of the Kentucky State Medical Association, held in the Gymnasium of the Harlan High School. Music for the occasion was furnished by local artists. Following the banquet everyone moved to the Auditorium, where Dr. C. C. Howard presided. The Annual Oration was delivered by Dr. Kennon Dunham, Cincinnati, Ohio. His subject, Pulmonary Emphysema, a Sequela of Pulmonary Tuberculosis. Dr. Wm. D. Haggard, Nashville, Tennessee, gave an address on Management of Goiter and results in one thousand operative cases with lantern slides illustrating remarkable results.

(Mrs. W. T.) Virginia Little,
Recording Secretary.

THE PRESIDENT'S REPORT

Mrs. B. K. Menefee, Covington

It is with pleasure I welcome you to this the Twelfth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association and hope the Session will prove helpful and profitable.

Just a year ago you conferred upon me the highest honor within your power by electing me to the office of President of this Organization, placing in my hands the Gavel of Authority. I have fully appreciated this honor and I have made an earnest effort, to the very best of my ability, to serve you in a creditable manner. The year with its many duties and manifold cares is past and I come to place before you the results of my labors, poor and incomplete as they are.

To those of you who are attending your first State Meeting we extend a special welcome; we are very glad to have you with us, the work of this organization is worthy of our very best effort.

May I call to the attention of every member

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present the Object of the Auxiliary? By constantly keeping this before us we will find much of interest, be able to accomplish more as an organization and prove ourselves worthy of the trust placed in us by the Kentucky State Medical Association, for through study and research we have found that the possibilities of our work are unlimited—in fact a school where by precept and example we are taught the true principles of correct living. These we should gladly impart to those with whom we come in contact through the Auxiliary activities:

1. "To extend the aims of the Medical Profession to all organizations which look to the advancement of health and education." What better work can we do than to help in improving the conditions in our communities that will lead to better health for our children and those of our neighbors? Your community and mine need more of this work than has ever yet been done. Think of the lives of mothers and babies that are sacrificed through ignorance every year!

2. To help, in every way we can, that life may be made more pleasant for our Physicians, for their lives at best are very strenuous. Let us encourage them to attend Medical Meetings. If permitted, see that they are entertained in a suitable manner while there.

3. Strive to promote friendliness among the families of Physicians through our County Auxiliaries. May the time soon come when we shall each know the family of every Physician in our county, lay aside all petty jealousies and work for the good of the Profession for which our Doctors have given years of service. Let us promptly extend a hearty welcome to the new Doctor and his family, and bid them Godspeed in their work, and seek to foster a constant fellowship with the other physicians' families whom we already know. This, will in the end, make us better Auxiliary members and help us to remember—in unity there is strength.

4. Consider well the work we plan to undertake. Know that it is approved by the Advisory Council of the County Society; be guided by them in all matters; may they always find us trustworthy in the duties that are assigned us and know that we are constantly under their supervision and guidance in whatsoever we attempt to do. Keeping these aims ever before us, let us go forward and make a success of our Auxiliary work.

At the close of the Murray Meeting a plan of work was presented to the Advisory Council of the Kentucky State Medical Association, for their approval, and this was graciously granted. The plan to be known as "Our Code" was read at the Post Convention Board Meeting and adopted. One of my first duties was to have copies of this made, sending them to all Auxiliaries in the State so that each member could have a copy. From reports received, our organizations have labored to make this outline workable. Through it, we have come in closer union with our Advisory Councils and the County Medical Societies.

The usual routine work of the administrative office was carried on. This necessitates quite a lot of work. Many letters were sent out and, as a rule, replies were received. I thank all who were so willing to co-operate in the duties assigned them and I appreciate the reports I have received from time to time. Not one has failed me during the year. I am sure you will be pleased to hear the reports they have ready for you at this meeting. At this time I will mention only a few of the activities reported.

Many of the Auxiliaries have made a careful study of our State Health Laws and are keeping abreast of these in so far as they apply to food, water and milk used in our communities. Most of the Auxiliaries have all the suggested Committees functioning; in fact in some of the smaller ones the members are working on more than one Committee.

The Chairman of Archives reports quite a bit of work done but was greatly hindered because some of us failed to send her the articles, especially newspaper clippings from our Counties. So, if in her report, your County Activities are not mentioned, some one forgot to do her part.

In Child Health and Welfare, our new venture, the Committee reports progress with promise of greater activity for next year. I sincerely hope each Auxiliary will give this subject careful consideration, for here is a great field ready for our earnest labor. Nothing will pay so great a dividend as work along this line.

Under the Budget System our finances have been well taken care of. With some shortage in the collection of dues, therefore less in the treasury, we have still kept out of the red and will be able to leave a balance in the Treasury for next year.

Our State Historian has been quite active and when you hear the splendid report she has to make I know you will rejoice with me in the result of her labor.

Our Hygeia Chairman has made an effort to interest our members in securing subscriptions

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for this Magazine, but owing to the stress of the times the subscriptions have fallen off in Kentucky; I hope you will examine the display sent us by the American Medical Association and leave a subscription if possible so that we may have a better report next year. This Magazine should be in every Doctor's Office, every School, every library and in our own homes.

By the help and encouragement of Doctor C. C. Howard, the new President of the Kentucky State Medical Association, together with our Chairman of the Jane Todd Crawford Memorial, we have quite a surprise in store for us, a detailed account will be given us by the Chairman.

The Committee on Legislation has had very little work this year but has been ready at all times to do whatever we were called upon by the Advisory Committtee, as the only way we may function is through their advice and counsel.

The Chairman on Organization had had some encouragement this year. The Auxiliary at Harlan was reorganized. Also two new ones, one at Harrodsburg in Mercer County and one in Glasgow in Barren County, adding 37 new members to our roster.

On Public Instruction our Chairman will speak for herself. At all times she has been ready to help and advise when requested to do so.

The Chairman on Public Relations was glad to serve all who sought advice in regard to contacts that could be made with other organizations. Through this committee we have a splendid opportunity of doing some real good that would be of lasting benefit.

During the year we had the misfortune of losing our Chairman of Radio, who with her husband moved to Utah. She was a wonderful officer and has set a high standard for her successor to uphold. We are proud of the record she has made. She had weekly programs; was able to have many of our busy Physicians Broadcast for her and these we heard gladly. In connection with the University of Kentucky she was interested in the idea of placing Radios in what are known as Listening Centers located in the mountains of our beloved State. She sent out requests for help in this matter and as far as I know secured one Radio; this appealed to me as a fine undertaking. At these Listening Centers many families gather and have the privilege of hearing much that will be of value to them and help in various ways, to brighten their lives. We hope her successor will be able to continue this work.

The report of our Chairman of Tuberculosis is one of the finest we have received, I hope she will be with us and tell us what she has accomplish. Her articles in the Quarterly have been very instructive and helpful; she has sent out more than eight hundred pieces of special literature on this subject, and made an earnest appeal for the sale, by our Auxiliaries, of Christmas Seals.

I am sure our Editor has a splendid report to make. I fear we have never fully appreciated the work being done by her. She has served us so faithfully for the three years and we certainly owe her a debt of gratitude. The Woman's Auxiliary Section of the Kentucky Medical Journal comes to us filled with interesting articles. And with news from the Auxiliaries—National, Southern, State and County—telling us of their activities; giving to us reports of Chairmen of Committees and describing the work they are doing. This has been done without expense to the State Auxiliary or to the State Medical Association. With the help of a few loyal members, she has been able to finance this venture as well as publish the Supplement. Let us try in the future to help her in this matter. This work was undertaken by request of the Medical Association and they have appreciated the effort made. Members of the National Auxiliary have been interested in our publication and have paid our Editor many compliments. The business accounts of the Supplement have been well taken care of this year by the Business Manager, Mrs. Peter Guntermann, who reports all debts paid to date.

Some of the County Presidents have sent in

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intereting reports and we hope they are all here to tell you what has been accomplished during the year.

As your President I had the pleasure and honor of participating in the Program at the Dedication of "The Doctor's Shop" at Harrodsburg on June 21, 1934, when a small brick office was presented by Governor Ruby Laffoon, for the State, to the Kentucky State Medical Association to be furnished by them as an old time Doctor's Shop. In this undertaking they have asked for our help and co-operation. Soon after this meeting, a letter was sent to all County Auxiliaries asking for your co-operation in this matter and I hope you will have some good reports for me. We should esteem it quite an honor to assist in this project, thankful that we may have the privilege of honoring The Pioneer Physicians who worked under great difficulties to establish the profession in Kentucky.

I had the pleasure of attending The Meeting of the Woman's Auxiliary to the Southern Medical Association held in Richmond last November. This was a fine meeting and I know you are going to enjoy the report of it to be given by our Delegate. In June I attended the Meeting of the Woman's Auxiliary to the American Medical Association in Cleveland. This was a splendid meeting but, unusual, in that Ohio has no Woman's Auxiliary. However, the Doctors' wives in Cleveland worked faithfully to make the meeting a success and extended generous hospitality to all.

I have tried, to the best of my ability, to keep up with the routine work of the office, but, owing to the ill health of myself and husband, I have been greatly handicapped and at times rather slow about the duties of the office. I beg your pardon if at times I have caused you any inconvenience about your work. I have passed on such information as came to me from the National or Southern Auxiliaries; sent out several hundred letters during the year; received many from the Officers and Members. I was always so glad to hear of the progress being made in our County Auxiliaries.

I had hoped to have the privilege of visiting every Auxiliary in the State but this I could not do owing to adverse circumstances. It was possible during the year to visit only four.

Briefly, I have brought to you the report of my year's work. My only regret is that so little has been accomplished when the opportunity of doing so many things worthwhile was so great. I wish to thank each of you for your kindness and co-operation during the year and hope when my successor takes up the work you will stand loyally by her and give her the same help and co-operation you have given to me. A little encouragement in this work means so much.

Today, we are here to lay our plans for the coming year and we need the encouragement and advice of each member.

It is a pleasure to meet here in Harlan, this beautiful little City located in this wonderful section of our State. Here, we are enjoying the hospitality of the Doctors and their wives and the good people of this vicinity who are doing all in their power to make our stay pleasant and profitable.

In closing may I leave with you this little verse:

"The year is closed, the record made,
The last deed done, the last word said.
The memory, alone, remains
Of all its joys, its griefs, its gains.
And, now, with purpose full and clear,
We turn to meet another year.

REPORT OF THE RICHMOND MEETING, WOMAN S AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION NOVEMBER 14-17, 1933

Mrs. A. D. Steely, Bardstown, Delegate

The Woman's Auxiliary to the Southern Medical Association held its tenth annual meeting in the Jefferson Hotel, Richmond, Va., November 14-17, 1933.

The opening general session convened at 9:30 A. M., November 15th with the President, Mrs.

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A. A. Herold, Shreveport, La., presiding with grace and dignity.

Rev. Beverly D. Tucker, Jr., D. D., Rector St. Paul's Episcopal Church, Richmond, offered the invocation.

In the absence of the General Chairman for Entertainment, Mrs. Stuart McGuire, her address of welcome was read by Mrs. J. B. Dalton, President of the Woman's Auxiliary to the Richmond Academy of Medicine.

Mrs. Wm. Lett Harris gave greetings from the Woman's Auxiliary to the Medical Society of Virginia.

The response to the addresses of welcome was made by Mrs. S. A. Collom, Texarkana, Texas.

In the absence of the Secretary, Mrs. Earl D. McBride, Oklahoma City, Okla., Mrs. Wm. Lett Harris, was made secretary pro tem.

With the Secretary in the Chair, the President, Mrs. Herold, gave her report which was approved and filed. Upon motion of Mrs. B. K. Menefee, Covington, Ky., a rising vote of thanks was given to Mrs. Herold for her year's work.

The Officers, Recording Secretary, Corresponding Secretary, Historian and Treasurer, gave their reports which were accepted and filed.

In the absence of Mrs. J. Ralston Wells, Daytona Beach, Fla., Chairman of Organization Committee, it was reported that 20 new County Auxiliaries had been organized during the year.

The report of the Publicity Committee was made by Mrs. Seale Harris, Birmingham, Ala., in the absence of the Chairman, Mrs. Estis H. Hargis, Birmingham.

Mrs. C. W. Garrison, Little Rock, Ark., gave a report as Chairman of Jane Todd Crawford Memorial Committee in which she emphasized the correction of the erroneous impression that the Jane Todd Crawford Memorial is a project for the State of Kentucky, alone. Resolutions were adopted that the Auxiliary to the Southern Medical Association, again, accept the establishment of a memorial to Jane Todd Crawford as a definite project, and that the President of the Woman's Auxiliary in each State appoint a chairman to carry out an educational program, Mrs. Garrison's complete report appears in the January 1934 Woman's Auxiliary Section.

These reports were followed by two addresses. Dr. Irvin Abell as President of the Southern Medical Association brought us greetings and encouragement. Dr. Seale Harris Birmingham, Ala., a past President, also gave a brief message.

Following these addresses, Mrs. Oliver W. Hill, Knoxville, Tenn., reported as Chairman of the Committee of Revisions. Mrs. A. T. McCormack as Custodian of Records, reported that parts of some of the Minutes of Annual Meetings are missing, and made an appeal for assistance in completing the file.

Mrs. S. A. Collom, Texarkana, Texas, gave a very excellent report as Chairman of Research Committee. So interesting was her report pertaining to the "periods of training in educating a doctor" that it was voted to print it in pamphlet form as soon as possible.

It would be an inspiration to all of us, and especially the county Presidents to read the State reports. These reports are given in full in 1933 Bulletin of Southern Medical Auxiliary. A copy has been sent to each County President and Secretary, so that they may be read at regular county meetings for the information of all members.

The report of the Nominating Committee was unanimously accepted. Every member may find the names and addresses of Officers and Chairmen on the back page of her Quarterly for 1934.

Before the Auxiliary adjourned to meet in San Antonio, Texas, November 1934, the Credentials Committee reported a total number of 298 present. The Kentucky Auxiliary was well represented, led by our President, Mrs. B. K. Menefee, with the largest number outside of Virginia, the hostess State, responding to roll call.

No report of the Southern Medical Auxiliary would be complete without mentioning the hospitality and entertainment. On Tuesday afternoon a Tea was given in the historic, beautiful and spacious home of Dr. and Mrs. VanderHoof.

The regular luncheon on November 15th was well attended. Mrs. J. Allison Hodges, Richmond, was toastmistress. Following the invocation, which was the reading by Mrs. A. T. McCormack of the Collect for Club Women by Mary Steward (found on p. No. 5 of January 1934 Woman's Auxiliary Section), Mrs. Hodges introduced several speakers.

Mrs. Seale Harris gave a few delightful reminiscences of the history of the Southern Medical Auxiliary which she helped to organize. Other speakers were Mrs. Irvin Abell, wife of the President of the Southern Medical Associa-

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tion; Mrs. A. A. Herold, President of the Auxiliary; Mrs. Southgate Leigh, President-elect, and Mrs. Mildred Berry, an archaeologist recently returned from the Holy Land. Dr. Dean Lewis, President of the American Medical Association, commended the work being done by the Auxiliary, and suggested as a new aim to quietly and steadily work to overcome the propaganda of the anti-vivi-sectionists.

At the opening session of the Southern Medical Association Wednesday evening, November 15th, Dr. Irvin Abell, Louisville, following his installation, presented in his Presidential Address a vivid, enlightening word picture of the life of J. Marion Sims, M. D. Auxiliary members will find Dr. Abell's address helpful in better understanding the effort and the accomplishment of Dr. Sims in his splendid contribution toward the alleviation of pain and suffering among women. Following this meeting the President's Reception was held.

The entertainment on Thursday was a delightful sight-seeing, educational trip to Jamestown, where the first English Settlement was made, and then on to Williamsburg, site of the second Capitol, where William and Mary, our first Colonial College was founded and still functions. Mr. John D. Rockefeller, Jr., is now spending millions of dollars in the restoration of this beautiful Colonial village which cradled many of the great men in the early development of our country.

Excellent guide service was provided, including an address in the church at Jamestown by a representative of American Preservation of Virginia Antiquities, and another in Bruton Parish Church by Dr. Goodwin, whom we may call the Father of the Restoration. Each address gave us important historical facts, and made us realize how little we actually know about the life of our forebears, and the heroic determination with which they met their problems and possibilities, and the uncertainties of livelihood which necessarily face a pioneer people planted in an unknown wilderness inhabited by hostile races.

Lunch was served in the historic Williamsburg Inn, and we spent all afternoon visiting buildings already restored to the period of Colonial Days.

It was indeed appropriate for our Mother State to give us this visit to the First Colony, and we departed with a feeling of awe, tenderness and reverence.

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News From the Counties

BALLARD-CARLISLE

The Ballard-Carlisle Auxiliary held a luncheon meeting, December 4th, at the home of Mrs. James F. Harrell, Bardwell, for the annual election of officers. Eight members and one visitor were present. Mrs. E. E. Smith, Bardwell, was re-elected President; Mrs. W. A. Page, Barlow, First Vice-President; Mrs. J. F. Harrell, Bardwell, Second Vice-President; Mrs. Wm. A. Ashbrook, Gage, La Center, Secretary-Treasurer.

Chairmen appointed for the new year are: The Doctor's Shop—Mrs. Mattie Petrie Mosby, Bardwell; Hygeia—Mrs. Ezra Titsworth, Bandana; Jane Todd Crawford Memorial—Mrs. E. W. Benson, Bardwell; Tuberculosis—Mrs. E. L. Kennedy, Milborn. A donation of Two Dollars was voted for the support of the Quarterly—the Woman's Auxiliary Section of the Kentucky Medical Journal.

CALLOWAY

News of the total loss by fire of the three story home at Murray, of Mrs. Ben B. Keys, widow of Dr. Ben B. Keys, on the night of December 12th will arouse sympathy from all who met these gracious, hospitable folk during the State Meeting of September, 1933 in Murray.

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CAMPBELL-KENTON

A meeting of the Campbell-Kenton County Auxiliary was held at the Speers Memorial Hospital, Dayton, on October 18th when Dr. Charles J. Farrell, Covington, formerly associated with Dr. Kennon Dunham, Cincinnati, but who is now in charge of the Chest Clinic at the Kenton County Health Department, was the guest speaker. Dr. Farrell chose as his subject, Tuberculosis In Northern Kentucky and, giving some valuable statistics in regard to our County, stressed the need of a sanatorium in Northern Kentucky.

Non-members of the Auxiliary, interested in hearing this talk, were invited to obtain admittance as the guest of their family physician's wife. All social service workers and nurses were invited to attend.

November 1st, the Auxiliary met at St. Elizabeth's Hospital, Covington, when Mrs. Walter A. Garrett, former Covington Commissioner and a prominent club woman, spoke on The Professional Man in the Community. She compared the physician and the lawyer, analyzing their education, work and future possibilities.

At this meeting, members contributed toys, dolls, phonograph records, etc. for the Christmas box to be sent to Mrs. Mary Breckinridge for the Frontier Nursing Service.

Miss Pauline C. Haley, President of the 620 Woman's Club of the Baker Hunt Foundation, Covington, addressed the Club on October 18th on the subject of Jane Todd Crawford. Miss Haley has been very active in this club and was installed as President on June 6, 1934.

Campbell-Kenton Auxiliary is actively at work in the Christmas Seal Sale, as are several clubs and women's groups in Northern Kentucky.

The December meeting of the Campbell-Kenton Auxiliary is to be held on the evening of December 6th at the home of Dr. H. C. White and Mrs. White who will entertain with a Christmas Party.

Dr. B. K. Menefee and Mrs. Menefee, Covington, attended the unveiling of the George Rogers Clark Memorial at Pioneer State Park, Harrodsburg when President Roosevelt made the dedicatory address.

HARLAN

The stork has been visiting the families of physicians in Harlan County! Into the home of Mr. and Mrs. Lewis Green, came a son on December 9th. Mrs. Green is the oldest daughter of Dr. E. M. Howard and Mrs. Howard, Harlan. On Saturday, December 1st, a son, Louis Eugene, arrived at the home of Dr. Barney M. Ragan and Mrs. Ragan, Cloversplint. Congratulations!

Mrs. R. L. Essary, daughter of Dr. A. J. Fields, who suffered a cerebral hemorrhage in October, is very low.

JEFFERSON

An enjoyable luncheon meeting was held on Monday, September 10th in the Roof Garden of the Brown Hotel by the Jefferson County Auxiliary with 61 members and 3 guests present. Mrs. L. Lyne Smith presided. The speaker's table was elaborately decorated with vases of red roses and the smaller tables with a profusion of cut flowers. Musical selections were rendered by Mrs. Joseph Carr Ray. Dr. August Schachner held the interest of those present for an hour while he recounted conditions in the Far East as he had found them in his recent travels. The time allotted him proved all too short and we hope to have this gifted and gracious friend with us soon, again. A short report on the summer session of the Camp Taylor Health School was made by Miss Artus James.

The Study Class of the Jefferson County Auxiliary meets on the first Monday of each month at the Brown Hotel. The Chairman, Mrs. William Kenneth Kannard, has arranged very interesting programs and is rewarded by a good attendance. As only sixty minutes are allotted for this class, every minute counts. At the October Meeting, Private Worlds, by Phyllis Bottome, was reviewed by Mrs. L. Lyne Smith. An original poem, Friendship, and two original plays, The Gooseberry Mandarin,—a dainty Chinese story, and in contrast, The Genius, an excellent bit of modern American character delineation, were given by Miss Grace Dorcas Ruthenberg. The versatility of this young artist, with words, delighted her audience, and like Oliver Twist, they eagerly hope for more. Current Events, given by Mrs. Oliver Holt Kelsall concluded the program.

The November meeting proved to be of unusual interest. Reminiscences of Kentucky written by our own gifted Jane Woodson Rogers (Mrs. John Clayton Rogers) and presented by Mrs. Hugh Nelson Leavell warmed the memory with its homey, vital heart throbs. This was preceded by an attractive and informative talk on New Zealand experiences and personal observations by Mrs. S. S. Jenkins, a native of that faraway land. Mrs. Oliver Holt Kelsall concluded the program with Current Events.

Mystery, Magic and Medicine by Dr. Howard W. Haggard was reviewed by Mrs. M. H. Mathewsian at the December meeting and Mrs. John K. Freeman summarized and analyzed Medicine,

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A Voyage of Discovery, by Josf Lobel, M. D. Current Events were discussed by Mrs. Oliver Holt Kelsall.

The Sewing Unit, under the chairmanship of Mrs. F. Parks Ogden, has been well attended and 180 garments were completed before December 1st. The first Fall meeting was held at the hospitable country home of Mrs. S. C. McCoy on Tuesday, October 9th. 35 members were present.

On Monday, October 29th, 22 members accepted the hospitality of Mrs. A. T. McCormack in her apartment at the Brown Hotel for an extra meeting. A dressed doll, or a doll to be dressed that day, was the requirement. At the end of a busy, pleasant day, 36 dolls, all dressed in the latest approved style, from babyhood to ladyhood, were ready to be packed in the Christmas Box containing layettes, sheets, pillow cases and nightgowns for mothers; toys, books and clothing for children; and sent to the Frontier Nursing Service, Inc., in Leslie County, where, under the direction of Mrs. Mary Breckinridge, distribution would be made in the several Nursing Centers. Oh yes! Each doll had been given its name—the one borne by its donor—and this was written on a piece of paper and pinned to its dress. Mrs. S. C. McCoy was in charge of the packing and transportation.

On Tuesday, November 13th, a busy day was spent at the attractive home of Mrs. Oliver Holt Kelsall on Southern Parkway when 22 members worked under the inspiring leadership of Mrs. F. Parks Ogden.

The last meeting of the calendar year will take place on Tuesday, December 11th, at the home of Mrs. Arthur O. Goodman, 1910 South Third Street.

The Jefferson County Golf Unit has made up in enthusiasm what it lacks in numbers, under the leadership of Mrs. J. P. Boulware. Mrs. L. Lyne Smith and Mrs. Stewart Carter joined with Mrs. Boulware in taking part in the tournament of the Woman's Falls City Golf Association at Green Fields Country Club on Tuesday, September 4th. They, also, entered the next tournament, September 18th, at Owl Creek Country Club, Anchorage. A trophy, donated by the Hook Drug Company, was won by Mrs. Stewart Carter. The last tournament of the season was played at the Audubon Country Club when the Auxiliary Unit was represented by Mrs. J. P. Boulware, Mrs. Stewart Carter and Miss Viola Fitzpatrick when Mrs. Boulware won the trophy donated by the Taylor Trunk Company. The Annual Business Meeting followed luncheon at this tournament.

Wedding bells rang in Jefferson County for three Auxiliary families.

At High Noon, Saturday, November 10th, Miss Louise Talbott Cooper became the bride of Mr. John Nelson Leavell, youngest son of the late Dr. Hugh Nelson Leavell and Mrs. Leavell. The ceremony was solemnized at St. Paul's Episcopal Church by the Reverend Charles G. Leavell, Yancy, Va., brother of the groom, assisted by the Reverend Henry L. Durrant, Rector of St. Paul's.

The marriage of Miss Ruth Jenkins, daughter of the late Dr. William A. Jenkins and Mrs. Jenkins to Mr. John Parker Sippel, Baltimore, Maryland, was solemnized at the Second Presbyterian Church, at Four O'clock, Saturday afternoon, November 10th, the Reverend Teunis E. Gouwens, D. D., officiating.

Another wedding in the charming family of Dr. George C. Leachman and Mrs. Leachman, was that of their daughter, Helen who became the bride of Mr. Nelson Bernard Boone at Half past Seven O'clock on the evening of November 16th at the Rectory of the Church of St. Agnes, the Reverend Father Egbert officiating. A small reception followed at the home of the bride's parents on Casselberry Road. Mr. and Mrs. Boone are now at home at 1801 Oregon Street, Louisville.

The heartfelt sympathy of every Auxiliary member is extended to Mrs. John Preston Ferguson whose husband, Dr. Ferguson, passed away August 4th: Mrs. J. P. Boulware, upon the loss of her brother, Mr. Walter Head, at Owensboro: Mrs. Samuel W. Weinberg, upon the death of her husband, Dr. Weinberg, November 21st; Mrs. A. T. McCormack, for the loss of her father, Mr. Alfred Daniel Teare, Berlin, N. H., on December 1st, and Mrs. A. D. Wetherby, Middletown, upon the tragic accident and death of her husband, Dr. Wetherby, December 11.

The following members of the Jefferson County Auxiliary attended the Annual Convention of the Southern Medical Association and its Auxiliary held in San Antonio, Texas, from November 13th-16th: Mesdames Ellis S. Allen, Wm. E. Fallis, Arthur T. McCormack, W. Wood-

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ward Nicholson, Sam A. Overstreet and Miss Grace Stroud.

Mrs. Charles H. Moore has returned from a three weeks' stay in Houston and Galveston, Texas, where she visited her father and sister.

Mrs. A. T. McCormack has returned from Berlin, New Hampshire, where she was called November 22nd by the illness of her father, Mr. Alfred D. Teare, who suffered a cerebral hemorrhage on November 15th and expired December 1st.

Mrs. Leon Solomon is recuperating at her home, 2327 Carolina Avenue, from a serious and painful accident which occurred Saturday afternoon, November 24th near Madisonville, Kentucky, when her automobile overturned three times as she applied the brakes when she thought some hunters, with leveled guns were going to discharge their weapons as a covey of quail flew across the highway in front of her car. Mrs. Solomon, associated with the medical department of the Kentucky Emergency Relief, was motoring home alone when the accident occurred near Anton, nine miles from Madisonville. Following treatment at the Madisonville Hospital, Mrs. Solomon returned to her home in Louisville with Dr. Solomon who went to Madisonville when informed of the accident.

Mrs. William Clark Dugan, who returned to her home in Finchville about October 1st, following months of hospital treatment in Cleveland, Tennessee, after an automobile accident, has been at St. Joseph's Hospital in Louisville for a few weeks but expects to go home about the middle of December.

Dr. W. Barnett Owen and Mrs. Owen plan to entertain at the Pendennis Club with a Tea Dance on December 26th in honor of their debutant daughter, Miss Kitty Owen.

Several of our members have gone in seriously for contract bridge and have been attending classes at the Kentucky Hotel. In one of the duplicate bridge tournaments conducted by The Louisville Times, Mrs. J. W. Fitzpatrick and daughter, Viola, won first place in Division A., Mrs. Oliver H. Kelsall and partner coming in second.

Congratulations to our own Mrs. F. Parks Ogden. What for? Oh, haven't you heard? The beautiful new Chevrolet Coupe she won at the Rialto Theatre.

The Annual Christmas Luncheon with Mrs. L. Lyne Smith presiding, took place in the Roof Garden of the Brown Hotel on Monday, December 3rd, following the Study Class and Business Meeting held in the Derby Room. Red and silver was the color scheme carried out in all the decoration. A lighted Christmas tree at one end of the room and a lighted, small white tree as centerpiece on the Speaker's Table suggested the holiday season. Silver candlesticks with red tapers and red and silver favors added a festive air to the occasion. A delicious turkey menu was enjoyed by 44 members and 4 guests, during which negro spirituels were sung by students from the Bourgard College of Music and Art. The undivided attention accorded their well-chosen selections and the applause given each number was conclusive proof of the pleasure these singers gave their audience. For this, and for the remainder of the instructive and entertaining program, thanks is extended to Mrs. R. S. Witherspoon, Secretary of the Speakers Bureau of the Community Chest. Mrs. Neville Miller, Chairman of the Woman's Crusade in the Mobilization for Human Needs, was introduced by Mrs.

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Smith. Following a brief statement on the 1934-1935 Mobilization, in which she urged all members to join, Mrs. Miller presented Mrs. Herman Nettleroth who described in vivid manner the aims and the methods of the Woman's Crusade. Mrs. Miller introduced Mr. Luther Stein, President of the Louisville Area, Council of the Boy Scouts of America, who concluded the program with an instructive talk on the training of boys through Scout activities. Plans and arrangements for the luncheon and decorations were in charge of Mrs. J. W. Fitzpatrick and Mrs. Charles H. Moore.

NELSON

The annual Meeting of the Nelson County Auxiliary was held October 9th. The officers for the new year are:

President—Mrs. A. D. Steely, Bardstown
Vice-President—Mrs. R. H. Greenwell, Bardstown
Secretary-Treasurer—Mrs. E. D. Mudd, New Haven

Mrs. A. D. Steely gave a talk on Health Education at the October meeting of the P. T. A. of the Bardstown Graded and High School.

On the evening of December 4th, Dr. L. E. Smith, Executive Secretary of the Kentucky Tuberculosis Association, opened the Nelson County Seal Sale with an illustrated lecture at the Court House. This address was open to the public. Before the address, the Auxiliary entertained Dr. and Mrs. Smith at a dinner to which Auxiliary members invited their husbands, also.

The Nelson County Auxiliary packed and sent a Christmas box of dolls and toys to the Frontier Nursing Service for distribution under the direction of Mrs. Mary Breckinridge at Hyden, Leslie County.

Miss Kathleen Greenwell, daughter of Dr. and Mrs. J. I. Greenwell, New Haven, has entered the convent of the Little Sisters of the Poor in Louisville, as a novice. Miss Greenwell had been acting as Corresponding Secretary for her mother, our State President. Her successor is her sister, Miss Martha Greenwell.

Dr. J. I. Greenwell and Mrs. Greenwell attended the unveiling of the George Rogers Clark Memorial at Pioneer State Park in Harrodsburg on November 16th when President Roosevelt gave the dedicatory address. They sat near the Menefees, (Dr. and Mrs. B. K.) on

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the reviewing stand and report that a magnificent crowd enjoyed the perfect autumn day as they listened with keen attention to the President and enjoyed Mrs. Roosevelt's smile.

PERRY

The Perry County Auxiliary cooperated with the Hazard Committee of the Frontier Nursing Service in sponsoring a motion picture program at the Virginian on October 4th to which a capacity house responded and the tidy sum of $125.00 was realized for the Service. Following the scheduled picture, Mrs. Mary Breckinridge, dressed in her riding suit, reported progress as local pictures of the work of the Frontier Nursing Service were thrown on the screen. Several in the audience recognized friends and, occasionally, found themselves in the pictures! On the following afternoon, Friday, October 5th, the Perry County Auxiliary, assisted by the Hazard Committee and the Business and Professional Women's Club, sponsored a Silver Tea for the benefit of the Frontier Nursing Service. This was held at the Grand Hotel. Autumn leaves and flowers in profusion added color to an unusually gray, stormy day. Many friends braved the storm, however, and the Auxiliary netted about $30.00 for the Service.

SAMSON COMMUNITY HOSPITAL

Mrs. E. A. Barnes has become our President, since Mrs. R. J. Hansel moved from the district, and our winter work has begun in earnest. A banquet with our husbands is planned for an early date.

A contribution of $11.00 has been sent for the Jane Todd Crawford Fund. This money was raised by a local entertainment given under the direction of Mrs. E. A. Barnes in Albany. A school essay program on Jane Todd Crawford is being developed in Barren County.

Two advertisements have been secured for the Quarterly, the Woman's Auxiliary Supplement to the Kentucky Medical Journal by Mrs. Barnes.

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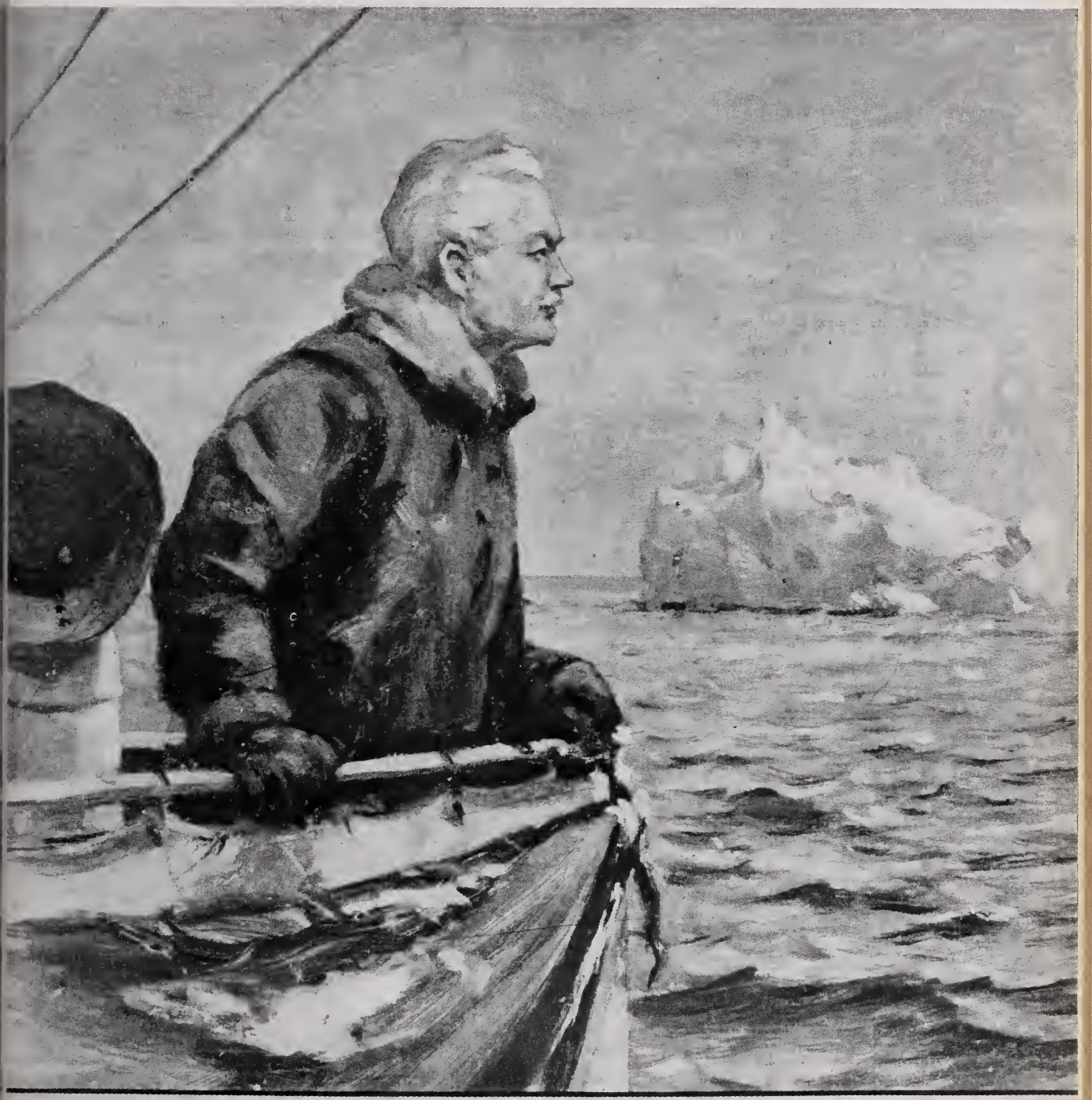
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1934-1935

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At The Cleveland Technical Exhibits

Of particular interest was the Hygeia Booth where portraits were made by Hygeia's art director, Francis Gorsline Klan, of the physicians who were in "good sitting" in the profession, a charcoal sketch requiring only ten minutes of painless operation. The drawing was mailed home free of charge, with Hygeia's compliment.

THE PRESIDENT'S MESSAGE

Mrs. J. I. Greenwell, New Haven

We have bid adieu to blustery March with its sharp winds, cold rains, and stealthy chills which invite so many ailments styled minor, but which so often develop into serious maladies, and have passed the third mile-stone of 1935 with an amazing rapidity. Again, we come to greet you when the "April showers bring forth the sweet May flowers."

Springtime, called "renewal time," beckons us from around the corner, and for those of us who seem to have been doused into the waters of adversity, as it were, have come bubbling up, and are here too, ready to try again.

It is bewildering to realize that one-half of our State Auxiliary year has passed. Let us pause long enough from our daily routine, to take inventory of ourselves and ask the question: "What am I doing along the lines of our scheduled program as outlined at our Post-Convention Board Meeting?"

Our National President writes: "Kentucky plans some very excellent work, and I hope you receive the cooperation from the local Auxiliaries that a State President deserves."

Judging from the splendid reports to date, some of the committee chairmen in the various Auxiliaries have been quite active. For your cooperation and loyalty, we are deeply grateful.

Our thanks are due Mrs. A. T. McCormack, who, although working under many handicaps, was highly successful in getting out our interesting Quarterly Supplement so efficiently for January—not disappointing its many readers. State Auxiliary publication is on the increase, and we want to retain our lead. We can, too. Remember—any amount contributed towards its financial support, however small, is welcome. As the widow's mite was praised by THE SAVIOR above the lordly gifts of the wealthy, so no one should be restrained from giving because his contribution is small.

On June 10-14, 1935, our National Organization meets in Atlantic City to tell of its accomplishments. We want Kentucky to be well represented at this Meeting and hope our officers and committee chairmen will be ready to say we have reached our goal, and have given our best support. A gathering of this kind has great possibilities. Here we exchange ideas for new vision and greater inspiration. The Traymore Hotel will be our Headquarters, Dr. Carrington is our convention chairman.

Atlantic City, with its piers, the Board Walk, the sea food, sun and sea air combined with splendid hotels, and a spirit of welcome unsurpassed, will provide us an opportunity to accomplish much, to play hard, and to go home refreshed by our stay in our country's greatest seashore resort.

-:- EDITORIALS -:-

THE NEW ERA IN MEDICINE

Under this title the readers will find on page 43, an interesting study by one of our members, Mrs. J. B. Lukins. Those who wish to examine this subject more closely will find helpful the references Mrs. Lukins gives at the conclusion of her article. The February issue of the Kentucky Medical Journal contains a Jefferson County study made under the chairmanship of Dr. Virgil Simpson; the April issue contains another by Dr. A. T. McCormack. In the latter, a vivid, enlightening description is given on how a bill is introduced and of the procedure as it is considered and acted upon in Congress.

PHYSICIAN—PHILANTHROPIST—PILOT

Sir Wilfred Grenfell, whose portrait by Bernard Gribble appears on our cover, thanks to the joint courtesy of the Literary Digest and The Grenfell Association, is one of the most successful physicians of our age, practicing medicine among the less than 4,000 inhabitants scattered over the 230,000 square mile territory of Labrador, scenic Fisherman's Paradise of the North Atlantic.

On foot, by dog sledge, in a terrifying kayak on the turbulent waters of some remote stream, or, at the wheel of the hospital boat, Strathcona II, gracefully skirting the rugged coast of beautiful bays and inlets, Dr. Grenfell is a living example of one who not only loves his fellowmen and seeks to benefit mankind, but who, having found an individual in need, promptly proceeds to do something definite about it. His eagerness to be of service includes not only the physical needs of his patients but also the spiritual, occupational and economic needs. And, in order to best serve the individual patient, Dr. Grenfell recognizes the necessities of the entire family, together with their surroundings, and ministers to their needs. Nor does his interest and service stop there, but encompasses and embraces the whole community. Perhaps, an index of his attitude toward thoroughness is best expressed in these, his own words: "I am sure when Christ made doors and windows in Nazareth they did not jam and mis-fit."

And "Teach me today to do the thing that pleases Thee." Could any theology be more profound? Any sociology more practical? To do my surgery, my navigation, my investigation, my study of new problems as Christ would do them."

And, again: "In reality, the terms, 'Christian' and 'Good Sportsman' are synonymous."

As a Thinker and a Doer, Dr. Grenfell, Master Mariner, pilots the lives and souls of sturdy fisher-folk, while living as one of them in Labrador's once forgotten and neglected outposts of civilization, quite as capably and as happily as he pilots his boat on the sparkling blue, sun-kissed, icy sea he loves to sail on his missions of mercy.

A review of The Romance of Labrador is given on Page 45 and the following extract from The Challenge of Labrador, 1929, will be of interest to our readers, particularly to those who were so fortunate as to hear Dr. Grenfell's inspiring address at the Commencement Exercises of the University of Louisville, held in the Memorial Auditorium, June 6, 1933.

HONORING JANE TODD CRAWFORD

On Memorial Day, May 30th, 1935, nearby the monument of Dr. Ephraim McDowell, a modest monolith honoring Mrs. Jane Todd Crawford will be unveiled in McDowell Park, Danville, by the Kentucky State Medical Association, announces Dr. C. C. Howard, Glasgow, president. Plans and preparations for the ceremonial exercises are being developed. The May issue of the Journal will carry more complete information. The Auxiliary will be invited to attend and participate in the proceedings. Put this date on your calendar and come to Danville with your husband for this memorable event, an event that will mean much to the Auxiliary as well as to the Kentucky State Medical Association.

HAIL CALIFORNIA!

Hail California! And, welcome!

Another Auxiliary publication! This one the California Medical Auxiliary Courier, Mrs. Elmer Belt, Editor and Mrs. John Martin Askey, Business Manager, both of Los Angeles! The California Medical Auxiliary Courier is announced as the official publication of the Woman's Auxiliary to the California Medical Association, Mrs. Philip Schuyler Doane, President, and will be published semi-annually.

Volume I, Number 1, December, 1934, reached the desk of the Editor of the Kentucky Quarterly along with a beautiful Christmas card from Mrs. James F. Percy and was, indeed, a joyous surprise. The Courier is a neat, attractive, four-page folder of a deep cream shade, printed in green ink, with two gay, green Christmas Trees, one on either side of the heading, under which is announced, Christmas Tree Edition. Its contents are, of course, relative to Auxiliary activities. And—interesting they are! The advertisements are attractive and timely.

Welcome, California Medical Auxiliary Courier! The Woman's Auxiliary Section of the Kentucky Medical Journal is happy to greet you and wish you long life, long life and a happy one. May your like increase!

HOSPITAL DAY

Hospital Day, May 12th, is celebrated all over the country with Open House by every hospital in memory of Florence Nightingale, Founder of Modern Nursing, born on May 12th, 115 years ago. It is hoped that all citizens will avail themselves of this opportunity to visit, at least, one hospital on that day in remembrance of her who paved the way to skilled nursing care and gentle ministrations, under the supervision of a physician, for those who are ill or injured.

Less known, but perhaps of even more far-reaching importance, was the work of Florence Nightingale as a Sanitarian. She led in the clean-up of hospitals, making wholesome habitations of the noisome, pestilential pens of agony, for sick and wounded soldiers in the Crimea, who so loved this gentlewoman, at times an unrelenting and strict disciplinarian, that they affectionately called her "The Lady of The Lamp," and, it is said, kissed her shadow as she passed their beds of pain at night. She also devised and directed, often from her bed as an invalid, the sanitary program of the English Army in India, as well as many hygienic and sanitary projects for London and other localities of the British Empire.

A study of the life of Florence Nightingale is recommended to Auxiliary members. An excellent paper on this subject was read by Mrs. Curt H. Krieger at the February meeting of the Jefferson County Auxiliary, extracts of which we are privileged to present here with the kind permission of Mrs. Krieger.

FLORENCE NIGHTINGALE

Mrs. Curt H. Krieger, Louisville

Florence Nightingale was born in Florence, Italy, May 12, 1820, and died August 13, 1910. She fell asleep as usual the night before—and did not wake again. The offer of burial in Westminster Abbey was declined for she left directions that her burial should be of the simplest. She was buried beside her father and mother in the little country church-yard near Embly, and on their monument was put the inscription she wished for herself—just the letters F. N. and the dates of birth and death.

Florence was the child of well-to-do English people and was born while her parents were touring on the continent and was named after her Italian birthplace. An only other child born a year previous at Naples was called Parthenope after the old Greek settlement there. Florence was always very serious minded while Parthenope was more of the society-loving kind. While not strictly beautiful, Florence, as she grew older, was remarkable for grace of figure and movement, for a shapely head, a sweet voice and the air of a woman of unaffected high breeding. In repose her features expressed great reserve and self control—there was a certain aloofness. On serious observers, she produced an impression of unusual character and intelligence and her talk was clever and amusing when she was "tempted to shine in society."

Florence had an unusually good and stimulating general education for a girl of her time. At the age of 17 she was taken abroad and traveled through France, northern Italy, Switzerland and Geneva. A few years later she spent a winter in Egypt, the spring in Greece and several months in Germany. During her travels she always visited hospitals, watched the famous surgeons at work and studied the methods of nursing employed in the different countries.

Florence's heart and thoughts from early childhood were much occupied with religious inclinations. She was early obsessed with the longing to bring help and comfort to the suffering world. As she grew older the purpose of caring for the sick and sad grew more and more fixed. Great difficulties stood in her way of becoming a nurse. The objections were made on moral and social grounds as the work was, at that time, considered unworthy of an educated woman. Florence's parents strongly opposed her in her desire to nurse.

It was not until the Crimean War (1854-56) that Florence got her great opportunity. She was placed by the British government at the head of a unit of forty women nurses whom she took to the Crimean. This unusual expedition excited lively interest as the employment of women nurses was entirely novel in this country, as was indeed the placing of a woman in any position of public responsibility except the throne. By the end of the war Miss Nightingale had under her supervision 125 nurses.

Her work in the Crimean was only an episode. She had broken down a "Chinese Wall" of prejudice with regard to occupation of women as nurses but nothing permanent had been established. Her work during the war on sanitary and administrative reforms had been useful lessons. She collaborated with such men as Lister, Cohn and Parkes on sanitary science. The result was her wonderful program on sanitation and hygiene for the English Army in India, for which work she was called the Health Missionary for India.

Her work with the English Government on plans for hospitals and Military Reform is one of her greatest achievements. At this time she wrote "Notes Affecting the Health, Efficiency and Hospital Administration of the British Army," which is the most remarkable of her works and the least known.

After the Crimean war Miss Nightingale established "The Nightingale School For Nurses" with funds known as the "Nightingale Fund" raised by her loyal friends in appreciation of

her work in the war. She described her training school thus: "The training school is to be a Home—a place of moral, religious and practical training—a place for training of character, habits, intelligence, as well as nursing." At this time she wrote "Notes on Nursing," a treatise on nursing and the best known of her works.

Friendship

Extracts from a letter on Friendship, written by Miss Nightingale May 23, 1873 to her nurses.

"We all know that there are dangers and disappointments in friendships, especially in woman's friendships, as well as joys and sorrows. True friendship is simple, womanly, unreserved: not weak, or silly, or fond, or noisy or romping, or extravagant, nor yet jealous and selfish, and exacting more than woman's nature can fairly give, for there are other ties which bind women to one another besides friendship; nor, again, intrusive into the secrets of another woman, or curious about her circumstances; rejoicing in the presence of a friend, and not forgetting her in her absence. Some of our youthful friendships are too violent to last; they have in them something of weakness or sentimentalism; the feeling passes away, and we become ashamed of them. Or at some critical time a friend has failed to stand by us, and then it is useless to talk of "auld lang syne." Only still let us remember that there are duties which we owe to the 'extinct' friend (who perhaps on some fanciful ground has parted company from us) that we should never speak against her, or make use of our knowledge about her. For the memory of a friendship is like the memory of a dead friend, not lightly to be spoken of. And do not expect more of them than friends can give, or weary them with demands for sympathy; and do not let the womanliness of friendship be impaired by any silliness or sentimentalism; or allow hearty and genial good-will to degenerate into vulgarity and noise."

THE DOCTOR'S SHOP

Mrs. G. A. Hendon, Louisville, State Chairman

RADIO MESSAGE

Calling All Auxiliaries!
Calling All Auxiliaries!

The Doctor's Shop located in Harrodsburg, needs equipment and furnishings such as were used in the early days of a Doctor's Shop All members be on the lookout for any articles which could fill this need. Go out in the by-ways and hedges and see what you can locate. Co-operation will bring desired results. Will you co-operate?

Calling All Auxiliaries!
Calling All Auxiliaries!

A TIMELY WORD

Mrs. Wm. H. Emrich, Business Manager

Advertising is profitable business when it becomes a mutual transaction. If Quarterly readers will buy, Quarterly advertisers can sell. A practical talisman would be:

"Nothing to lose, everything to gain, in buying from our advertisers."

PROCEEDINGS OF THE TWELFTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT HARLAN, KENTUCKY, OCTOBER 1-4, 1934

(Continued from January Issue)

ADDRESS OF WELCOME

Mrs. Joseph W. Nolan, Harlan

Madam President, Members of the Kentucky Medical Auxiliary, and Guests:

We most heartily welcome you to our city. Our County Auxiliary, our towns-people and our citizens of the County-at-large are most grateful to you because you have seen fit to come into our section of the State for your Annual Convention.

For years, it is true, the mountain section was an isolated part of our State, but with the coming of the railroads and highways, great strides have been made in many lines of progress. Our great mining industry, for which this county has been noted, was not begun until about 1913 and the United States Steel Corporation began to develop what is known as the Lynch Mines as late as 1917. Even after the coming of the railroad, we were hampered for the want of good roads.

In 1926, the concrete road to Pikeville was completed, at last, linking us with the outside world over a good highway. Better transportation, as is always the case, has made better schools possible and we now have as good a school system as any in the State, outside the larger cities. All the leading denominations now have churches here of which we are justly proud.

In the early days it was hard for people in the outlying districts to get medical attention since there were only a few physicians and most of them living in the town of Harlan. It sometimes took hours, over a mud road riding horseback, or in a wagon, to make a sick call whereas, we now have about fifty doctors stationed in all parts of the county, at least, three good hospitals and several competent nurses. We also have a number of dental surgeons who are second to none.

While the foregoing is true—and there is more that we are proud of—yet, Harlan County has gained a name through the press that she will be long in out-living unless we can make friends with people from other sections

of our State and other States outside our own. We are not at all proud of the fact that our County leads the world in her homicide record. Yet, the facts and figures remain. But—we believe that when you have visited us and mixed and mingled with our people, you will see that the great mass of our 65,000 inhabitants do not deserve such a record. The rank and file of our people are law-abiding. We know that the real law-breaking element can be narrowed down well within the hundred mark.

We covet your good-will.

If we can just have all the members of this Convention boosting for us in all sections of the State, it will help tremendously. We do not want you to make this your first and only visit to our County. We want you to come again and tell others about Harlan if you find anything worth telling, as we hope you may.

We wish all of you a pleasant stay in our midst and, again, we greet you with a hearty

W E L C O M E .

RESPONSE TO ADDRESS OF WELCOME

Mrs. L. Lyne Smith, Louisville

Madam President, Members of the Auxiliaries to the Kentucky State Medical Association,

As the representative of the Auxiliary to the Jefferson County Medical Society I bring you the most cordial greetings and assure you that I deem it not only a great honor but a privilege to respond to the warm words of welcome extended so graciously by Mrs. Nolan.

There are times when it is difficult to find words for the proper expression of one's sentiment. This is such an occasion. Could I coin phrases at will, I might be able to tell you adequately of our pleasure at being with you. A great poet might describe the scenic beauty which we encountered as we drove to Harlan; but being just an ordinary mortal, I can only say that I hope we shall become well acquainted while I am here, so that, if at any time in the future, I feel like running away from the responsibilities of everyday life, I may feel free to impose upon your assurance of friendship and come here for rest and relaxation.

They say that an actor's idea of a vacation is to go to the theatre. There is quite a bit of truth in the statement. For there, more than any other place in the world he feels free from his duties and his obligations to his public. He takes no part, has no responsibilities and can therefore enjoy the performance to the fullest extent.

I feel sure the same thing is true of our visits to other Auxiliaries; we thoroughly enjoy listening to the reports of the work accomplished by other counties. We feel no sense of responsibility; no worry or timidity. We do not even have to provide the refreshments and we do not need to worry about the weather. In fact, we can give ourselves up to the wholehearted enjoyment of our friends—the splendid work of their Auxiliary and the good things prepared by our host Auxiliary for our entertainment.

Which reminds me of the story of the countryman who visited a large metropolitan hotel for the first time. He was much interested in the schedule of meals which read as follows:

"We serve breakfast from 6 to 12; Luncheon from 12 to 4; tea from 4 to 6; and dinner from 6 to 12." "Great guns," exclaimed the farmer, "when do we see the city?"

And, I must confess, that, like the farmer, my sentiments would have been one of disappointment had you **not** included in your wonderful program an opportunity for us to see the surrounding country; which to my mind, cannot be equaled for scenic beauty **anywhere**—and this statement I make without even the semblance of an apology, to any of us who might be listening-in from the Bluegrass.

Yes, visiting another County Auxiliary is my idea of a **real** vacation, and we, of the Jefferson County Auxiliary are happy to extend to you an earnest invitation to spend a little vacation with us in the near future.

REPORT OF THE CLEVELAND MEETING OF THE AMERICAN MEDICAL AUXILIARY

Mrs. J. I. Greenwell, Delegate

The American Medical Auxiliary held its Twelfth Annual meeting in Cleveland, June 11-16, 1934 with headquarters at the Carter Hotel. Assisted by a group of Cleveland Doctors' wives, a hearty welcome was extended to all, whether members of the Auxiliary or guests. All meetings and entertainments were open to every one and a special invitation was extended to those not conversant with the aims and work of the Auxiliary. The events planned were of interest, and largely attended.

All meetings of the Auxiliary were held at the beautiful Carter Hotel, which is in the heart of Cleveland.

The session of the National Board opened Sunday afternoon, June 10, 1934, at 2:00 p. m. in the Ball Room, and closed with the Annual Banquet on Tuesday at 6:30 p. m.

Monday, June 11, 1934, a Pre-Convention Board meeting was held in the ball room at the Carter Hotel, Mrs. James Blake, Hopkins, Minnesota, presiding.

A report on the Jane Todd Crawford Project was to the effect that the advisory board of the American Medical Association did not want to take on any new work, and "if the Northern States did not help in the project that the

(Continued on Page 47)

THE JANE TODD CRAWFORD MEMORIAL

DOCTORS TO HONOR PIONEER HEROINE OF SURGERY

(News Release, October 14, 1934)

The Kentucky State Medical Association at its recent Annual Meeting at Harlan, took a practical step toward giving belated recognition to the debt of gratitude which the medical profession owes to the Pioneer Heroine of Surgery, Mrs. Jane Todd Crawford, upon whom Dr. Ephraim McDowell, at his frontier home in Danville, on Christmas Day, December 25, 1809, performed without the aid of anaesthesia or other modern requisites, the great experiment known as the "First Ovariotomy." Following the instructive, illustrated inaugural address of Dr. C. C. Howard, the newly installed President of the Association, individual donations from physicians and others for a memorial to Mrs. Crawford totaled over $200.00. Additional donations from physicians not present at the Harlan meeting are being mailed to Dr. A. T. McCormack, Secretary of the Kentucky State Medical Association, Louisville, who is also Treasurer of the Memorial Fund. Other members of the Memorial Committee are Dr. William A. Weldon, Chairman, Glasgow; Dr. Irvin Abell, Louisville; and Dr. W. E. Gardner, Louisville.

The remarkable experiment successfully performed at Danville 125 years ago was an epochal event. It opened the way to vast possibilities for the relief of human suffering, through abdominal surgery. It also enlarged and multiplied the opportunities for useful service by the physician-surgeon in promoting and prolonging life for countless thousands of men, women and children—all of whom owe a deep debt of gratitude to Dr. McDowell for his courage in attempting the hitherto unknown and, perhaps an equally deep debt of gratitude to Mrs. Crawford, both for her amazing determination to risk her life as the subject of a great experiment and for her almost unbelievable fortitude during the ordeal. As a result of the operation, Mrs. Crawford recovered her health and lived thirty-two additional useful years.

Nearly seventy years after this remarkable experiment, members of the Kentucky State Medical Association contributed funds for the erection of the memorial to Dr. McDowell. This is a stately granite shaft, standing in McDowell Park, Danville, and dedicated, with fitting ceremonies, on May 14, 1879. Dr. Samuel D. Gross of Philadelphia, formerly a professor at the Louisville Medical Institute, now the Medical School of the University of Louisville, was the orator of the occasion. In his oration, Dr. Gross said:

> "All honor to the man who had the courage and the skill to do that which no man had ever dared to do before! All honor, too, to this heroic woman who, with death literally staring her in the face, was the first to submit calmly and resignedly to what certainly was at this time a surgical experiment. To her too, let a monument be erected, not by the Kentucky State Medical Society or by the citizens of Kentucky, but by suffering women who, with her example before them, have been the recipients of the inestimable boon of ovariotomy with a new lease of their lives and with immunity from subsequent discomfort and distress. I know of no greater example in all history of heroism than that displayed by this noble woman in submitting to an untried operation."

On Armistice Day, November 11, 1930, the Kentucky State Medical Association again paid tribute to Dr. McDowell by unveiling, in conjunction with the Southern Medical Association then in annual session at Louisville, the artist's model of the life sized statue of Dr. McDowell in the rotunda of the Capitol at Frankfort. This model is the original of the bronze statue of McDowell representing Kentucky in the Hall of Fame in the National Capitol at Washington, and was a gift from the sculptor, Mr. Charles Neihaus, to Dr. A. T. McCormack, who, with his consent, turned the model over to the Kentucky State Medical Association.

So far the only monument, visible to the naked eye, to the memory of Mrs. Crawford, is the simple white marble slab erected by her son, Reverend James Crawford, over her grave in the Johnson Cemetery in Graysville, Indiana. The grave is neglected and the slab is hidden in weeds and undergrowth.

Members of the Kentucky State Medical Association now propose to place beside the stately McDowell shaft in Danville a simple stone marker to the memory of Mrs. Crawford. It is peculiarly fitting that the names of the physician-surgeon and the patient who together made medical history be thus linked in the minds of generations to come.

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CANCER CONTROL

CANCER MESSAGE

By Mrs. J. Duffy Hancock, Louisville

In a previous article attention was directed largely to tumors peculiar to women. The important points outlined were as follows: (1) have a prompt investigation made of all breast tumors, (2) have a pelvic examination done if an abnormal flow occurs, especially near the time of menopause, and (3) have laceration of the neck of the womb properly taken care of.

At this time it might be well to consider some lesions common to both sexes. Since we are told that the actual cause of cancer still defies detection, our hope here as well as elsewhere lies in prevention of irritation and early treatment of any abnormal areas. Mouth hygiene is of extreme importance. This includes not only the correction of snags and cavities of the teeth, but the proper brushing both of the teeth and gums and the frequent use of cleaning non-irritating gargles. And remember, too, that this will aid in preventing diseases other than tumors! There is much truth in the old French proverb "Death enters by the mouth." One who cares for her mouth properly will be more likely to observe, earlier, a chronic sore on the lip, a white opaque spot on the lining of the cheek or any area of thickening or ulceration.

Bear in mind, also, that the absence of teeth does not give immunity. Plates may rub or erode the tissues and even those individuals who "gum it" are susceptible to various other forms of irritation.

Don't forget your dentist when you have that periodic health examination. Have all suspicious areas thoroughly investigated and promptly eliminated. Let us help our doctors in this fight by following this advice ourselves as well as by urging our friends to do so.

GENERAL FEDERATION OF WOMEN'S CLUBS

Mrs. Grace Morrison Poole, President

Mrs. Julia K. Jaffrey, Chairman, Department of Public Welfare; Mrs. Carl Illig, Jr., Chairman, Division of Public Health

CANCER EDUCATION PROGRAM

"Cancer Thrives on Ignorance. Fight It With Knowledge"

Introduction—

This program is sent to you by your National Chairman for Public Health for several reasons:

(1) Cancer is the outstanding menace to women in the prime of life.

(2) So much progress has been made in its care that with your aid a further advance should be possible.

(3) The preservation of the health of women in the prime of life is the greatest single guarantee of national stability and of successful insurance for home life.

(4) Your contribution to the control of cancer can be both simple and effective.

(5) Because of the continuous nature of the problem the campaign against cancer must also be continuous and progressively efficient.

Program—

The duty of every club woman in the campaign against cancer is:

First: Inform herself of how best to protect herself against cancer.

This is done:

(a) By learning how to avoid situations which contribute to its incidence:
 (1) By careful skin hygiene
 (2) By careful hygiene of the mouth cavity
 (3) By periodic examination of tissues and organs of the body most likely to be the site of cancerous growth

(b) By increasing many fold the chances for its successful treatment.
 (1) By learning how to recognize danger signals which may mean early symptoms of its presence
 (A) Any sore which will not heal
 (B) Any lump on the breast
 (C) Any wart, wen or mole which shows any sudden or unusual degree of growth
 (D) Any unusual or irregular discharge from any of the body openings.
 (2) By reporting to t skilled physician or clinic for immediate diagnosis and treatment

Second: Spread to her friends and family information as to the nature, incidence and treatment of cancer. This is done:

(a) By individual effort through
 (1) Spreading pamphlets (to be distributed by the General Federation)
 (2) Conversation and personal influence

(b) By fostering the Federation's program as follows:
 (1) An annual cancer meeting before every Woman's Club
 This would include talks on various subjects such as

(A) What women can do about cancer
(B) Recent progress in cancer research
(C) The nature and incidence of cancer
(D) The prevention of cancer
(E) The value of periodic health examinations

(2) Radio talks on various cancer topics
(3) Use of movie films showing:
(A) The difference between normal and cancerous growth
(B) The growth of living tissue outside the body
(4) Cancer talks before service clubs, church groups, high schools, colleges, Parent-Teacher Associations, etc.
(5) Educational cancer exhibits at various gatherings

Third: Help encourage the establishment and maintenance of additional facilities for public education in cancer and for its diagnosis and treatment.

(a) By voluntary contribution of ten cents per year by every Club member. These contributions to form annually "The General Federation of Women's Clubs Cancer Control Fund."

CONTRIBUTIONS IN KENTUCKY

Contributions for the G. F. W. C. Cancer Control Fund are being collected in Kentucky by the several clubs from their individual members, then, passed on to the State Chairman of Public Welfare and Public Health, Miss Louise Morel, 2051 Sherwood Avenue, Louisville, who sends the annual total to the National Chairman, Mrs. Carl W. Illig, Jr.

REMEMBERED

A breath of perfume from the Garden of Memories is wafted toward Auxiliary members through the courtesy of Miss Nellie Schanzenbacher, Louisville, sister of our own Mrs. W. A. Onderdonk, State Radio Chairman from June, 1930, until her death January 25, 1932. Miss Schanzenbacher, an artist of marked ability, particularly in portraiture, kindly permitted us to see a copy of the October 15, 1934, issue of La Revue Moderne, Paris, France. which, on page 12, reproduces a charming and life-like portrait of Mrs. Onderdonk, painted by Miss Schanzenbacher, together with the art critic's comment. This gave us such joy that we asked permission to pass it on to you. And —through the generosity and courtesy of Miss Schanzenbacher and La Directeur G. Janet, Revue Moderne, you have it here, just as it appeared when we saw it first!

Mlle Nellie Schanzenbacher

Bien representee par une pienture de fleurs brillante dans la simplicite de la composition et riche par le jeu savant des lumieres dans la gamme harmonieuse des couleurs chaudes, Nellie Schanzenbacher ne nous a cependant, en la circonstance, montre qu'une face de son talent.

Elle s'est, en effet, particulierement distinguee comme portraitiste habile a exprimer la distinction d'un beau visage, en meme temps que la vie profonde qui l'anime, et composer aimablement son tableau afin de presenter le modele dans le cadre qui lui convient le mieux.

Cette ancienne eleve de Chase et de Henri deploie une grande activite comme animatrice de groupements artistiques, notamment la Louisville Artists League, devenue Louisville Art Association, l'Art Students League de New-York, et, naturellement la Southern States Art League.



SOUS LA LAMPE P. PORTRAIT
PAR Mlle NELLIE SCHANZENBACHER

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Tuberculosis

Mrs. Lucius Ernest Smith, Louisville, State Chairman

THE CHAIRMAN'S MESSAGE

In a recent leaflet, the Kentucky Tuberculosis Association has branded Tuberculosis as "Public Enemy No. 1."

At first thought, this might impress one as a sensational way of speaking of such a common disease as Tuberculosis, but careful study and thoughtful consideration lead one to believe that the organization is justified in thus branding this treacherous and devastating malady.

The World War took 3,315 Kentuckians. In the same period, Tuberculosis took from Kentucky 7,047 persons. We have outlawed war, but the tubercle germ has continued to carry on its deadly work. Many think of it as something that must be endured, because it has always been with us.

The figures for 1933 show Tuberculosis to be far in the lead, as a destroyer of human life, between the ages of 10 and 50. That is the most important span, and is often called "the active period of life."

This new leaflet shows us that Tuberculosis was not only twice as deadly to Kentuckians as the World War, but that, in 1933, it was the leading cause of death in the active period of life, and the leading cause of all deaths, at all ages, caused by "preventable diseases" in Kentucky. That is a serious indictment against this ruthless destroyer.

This leaflet further calls to our attention that Tuberculosis has taken 82,234 Kentuckians from us since 1911. What a serious charge against "The White Plague." It may well be called "Public Enemy No. 1." What shall we do about it?

For more than 50 years we have known how to prevent and cure Tuberculosis, but both prevention and cure depend upon finding those who are ill with the disease.

We cannot prevent others from being infected, unless we find and isolate all who are spreading the disease. We have recently learned that the only hope of curing those who are ill lies in finding them before they are far enough advanced to have serious damage done to the tissues of the body.

Since finding the cases is so important in preventing as well as curing the disease, we have set aside the month of April, each year, for a definite program of education and case finding. We call it the Early Diagnosis Campaign, and in every State, as well as in every part of our own state, this splendid program will be launched with the month of April.

There is no single greater service we can render our people than to join this crusade against "Public Enemy No. 1."

Get in touch with your local Tuberculosis Association or your local health department and see what you and your auxiliary can do to promote or assist in making this the most successful year's work against this great enemy of mankind.

VOICES FROM THE FIELD

Echoes from the field indicate that a great deal has been done to assist in the Christmas Seal Sale throughout the State, but we would like to have definite reports in time to give them space in this issue. We trust local chairmen will find time to make such reports at least quarterly.

Mrs. R. T. Hudson has been very active in the Seal Sale. Booths were maintained and other valuable assistance was given by her loyal workers in Jefferson County. The Camp Taylor Health School, made possible by this enthusiastic group and sponsored by them, seems to be going along in a splendid way, and we are grateful to all its supporters. May others follow this splendid example.

Miss Laura B. Summers reported splendid co-operation from the Nelson County Auxiliary in connection with the Seal Sale program. It is gratifying to know that our women are responding to the great appeal of the Tuberculosis program. It is worthy of our best interests and efforts, because it comes into our homes, and touches our lives in such an intimate way. Let us not be content until all women are in the great work.

THE CHAIRMAN'S MESSAGE

(Delayed from January Issue)

Facts are stubborn things to deal with, but it is very difficult to disregard facts and accomplish anything worthwhile. In a recent radio message, the Executive Secretary of the Kentucky Tuberculosis Association called attention

(Continued on page 42)

Fine Hand Woven Linens

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CHILD HEALTH AND WELFARE

Mrs. Philip F. Barbour, Louisville, Chairman

A LETTER FROM THE CHAIRMAN

Dear Auxiliary Friends:

Important conferences of far-reaching influence are being held these days on the subject of Child Health and Welfare. One of the most significant results that has come to my attention is the work of a Sub-Committee of President Roosevelt's Committee on Economic Security. I refer to the report entitled, Security For Children. This is the Summary of the Report to the Committee on Economic Security on Child Welfare in a Program of Social Security, recently presented to the President. Space does not allow for publication of the whole report but I will give you the first two and the last two paragraphs of this summary with the hope that you, yourselves, will secure the entire report and study it thoughtfully.

Sincerely yours,
(Mrs. Philip F.) Elizabeth Akin Barbour

"The chief aim of social security is the protection of the family life of wage earners, and the prime factor in family life is the protection and development of children. Child Welfare, in fact, has been called the "Spearhead of Social Security." Security for parents, the broad foundation upon which the welfare of American children must rest, involves economic, social, and health measures which pertain to the entire economic and social structure of our civilization. All of the social security measures which have been under discussion during the past few months may be described, in fact, as child welfare measures—even old age security, which lifts the burden of support of the aged from those of middle age whose resources are needed for the care of children.

In planning for any of the forms of security adequate consideration must be given to the protection of the health and welfare of the children in the families coming within their scope. All children need health protection, to provide which the community and the States, as well as individual parents have a responsibility. Such protection begins with the preparation of adolescent boys and girls for marriage and parenthood; includes provision for the adequate care of the mother during the pre-natal period, at childbirth, and following delivery; and should be extended throughout the infant, preschool, school, and later adolescent periods. Many children require special medical care or social protection by reason of physical handicaps, mental defect, orphanage, desertion, or grave conditon of incompetency, discord, neglect, and demoralization in the home."

"A continuing program of education in the essentials of adequate maternal and child care should be developed by local county or community health services in cooperation with medical groups, educational authorities, nutrition experts and others.

State-Wide Program—In order to develop local health services for mothers and children, leadership should come from the State Health Department through its division of maternal and child health and, for those local communities unable to develop even minimum services, assistance also in the form of funds or personnel or both. The function of a Division of Maternal and Child Health is primarily advisory and educational in nature, the program developing along the lines of (a) consultation with and guidance of local communities in developing their services for mothers and children, (b) demonstration or services in local communities for which personnel may need to be provided, (c) assistance in the provision of more permanent services in localities in special need, (d) state-wide educational programs for both lay and professional groups in maternal and child care. In its activities the division would necessarily work in cooperation with other divisions of the State health department, with State departments of welfare, education, labor, with those medical groups that are specially concerned with the health of children and mothers and with the general medical groups of the State and local communities. Where State and Federal funds are available for local purposes the State division would probably assist in formulating plans and should have the power of approval thereof. The activities of the division should be flexible so that new programs may be developed from time to time and new methods of administration or demonstration tried."

TOMMY'S SHIPS

Mrs. William H. Emrich, Louisville

Now Tommy had just passed his fourth birthday,
His youthful head was filled with strange notions.
Sometimes he was a sailor, when at play;
Sparkling fountains were his stormy oceans
Where great battles were so valiantly won.
He would sink toy ships and oh how proudly,
To his mother and his father he'd run;
Boasting bravely, victories so loudly.
Tom's a man now, and finds the seas are rough,
Unlike the fountains of his yesterday;
To claim his victory there must be proof
That he has put the enemy away.
Tom is thankful too that when young and fair
He learned to play life's game, to play it square.

ASK YOUR HUSBAND

ABOUT

VITAMIN D CERTIFIED MILK

and call

MAGNOLIA 4000

for

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DAIRY PRODUCTS

LOUISVILLE

THE CHAIRMAN'S MESSAGE

(Continued from Page 38)

to some very challenging facts about Tuberculosis in Kentucky.

Tuberculosis stood seventh last year in the Nation, as a taker of life among preventable disease. **In Kentucky it stood first.** Thus, it is not only the leading cause of death in Kentucky in the active period of life from all diseases, but it is the leading cause of death, at all ages, among preventable diseases in our State. It startles us when we realize that last year 43 of our citizens died each week, six each day—one every four hours.

For more than fifty years we have known how to prevent its spread from the sick to the well, and yet we have permitted it to spread among us, almost, it would seem, without resistance. Fifty years ago Dr. Trudeau showed us that Tuberculosis could be cured by REST, and yet **we allowed 2,266 to die with it last year.**

Surely these facts should arouse all women of our State to action. Tuberculosis strikes its heaviest blows at our group, and we should lead in the great struggle for its control and eradication. Let us leave nothing undone to make 1935 a "banner year" in the fight against Tuberculosis.

"TB-LETS"

Flies are cold and indifferent now, but they will get very friendly as warm weather comes. Why not mend and paint the screens?

Tuberculosis and Undulant Fever are two good reasons for pasteurizing milk.

An hour's rest lying down in a quiet room every afternoon is a good prescription for mother and child alike.

The child who is "always taking cold" needs building up in general nutrition and health. Incidentally look out for adenoids and give the tuberculin test.

Sunshine treatment holds its own as the greatest specific yet discovered for tuberculosis of bones, joints and glands. It is curing hundreds.

Practically all human sputum contains disease germs. When one spits on the sidewalk he is exposing little children and adults, rich and poor, to such diseases as colds, influenza, and tuberculosis.

Pills never cure constipation. Try a diet with more "roughage," plenty of water, and see your doctor.

One of the most foolish things a patient with tuberculosis can do is to go away off "to the great, arid southwest" or some other strange place without friends or money, depending only upon "climate." Better try getting well in Kentucky.

Preferred Dairy Products
Golden — Guernsey — Ice Cream
Cherokee Sanitary Milk Co.
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Telephone High 4670

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Our Advertisers Are Sharing With Us In This Pioneer Publication

A NEW ERA IN MEDICINE*

Mrs. J. B. Lukins, Louisville

With communism in Russia, Hitlerism in Germany, and the New Deal in America affecting every form and manner of business, it is too much to hope that the well known standards and practices of the medical profession will not be vitally influenced in this changing world.

During the last year, and especially in the last few months, much has been written about proposed changes titled "health insurance," "socialized medicine," "state medicine," "mutual health insurance," etc. We women must read and learn enough to understand and talk intelligently about these problems that our husbands may soon have to face. If the government supports old age and furnishes care for the sick and crippled, it is just one more step to furnish the doctor and drugs. Some change in medical practice seems inevitable. In an article written by Secretary of Labor Francis Perkins, titled "The Way of Security," she asks for the active cooperation of the medical profession, and concludes with these words: "Sentiment in favor of security legislation is evidently growing rapidly . . . I believe that actually the voice of opposition will be drowned out by the wave of enthusiasm for social insurance which is sweeping the country. It is growing so rapidly that our concern must be rather to avoid being swept into hasty or ill considered action. With a well-conceived program, carefully thought through, we can move with confidence, slowly, but surely, on the way of security to which we are committed."

Dr. Alfred Cox of the British Medical Association gives good advice. He claims "The profession should be the first in the field with plans and program. There is grave danger in waiting for action to be taken by the public or the politicians." The public has become very much interested in this question of how medical service shall be bought. As the New England Journal of Medicine pointed out, "The medical profession can supplement, or guide, but it cannot ignore public opinion."

Much is being written on what is called "health insurance" in widely read magazines such as the Saturday Evening Post, Literary Digest, The American, Graphic, Collier's Etc., and most of the articles are very much in favor of it. An editorial in the Saturday Evening Post, however, warns us against too hasty a decision, and against trying the plan that seems popular and satisfactory in England. Our country is different in too many ways. All the large countries of Europe have some form of compulsory health insurance except Russia, which has state medicine,(that is—a general medical service, salaried by and responsible to the state). We cannot keep from wondering if that has had anything to do with Russia's turmoil.

Dr. R. G. Leland of Chicago at our own state medical meeting last fall talked much about the English system of health insurance, and after giving the desirable developments listed by the British Medical Association says these same developments have taken place in the United States without health insurance. He also said, "The system has failed so completely that the B. M. A. is now trying to find new plans and methods of advancement as is the organized profession of the United States." It is optional with the physicians there (B. M. A.) whether they serve on panels for insurance practice. About 44% do. Health insurance there has raised the income for some not otherwise making a living. The average pay is $2,000 a year and it takes $1,000 of that for the maintenance of his practice. Dr. Leland sums up his remarks by saying "The real reason why organized medicine in Great Britain and the great percentage of the population now express more or less approval of insurance is because it is now an accomplished fact, and it has been for more than twenty years. The United States is now where Great Britain stood in 1911, however it is in a far more favorable position to choose which road it shall follow."

Michigan is to be commended on the manner in which its State Medical Association has gone about preparing for the worst, if they do have to change their medical economics. At their meeting in September, they reviewed the facts after three years of arduous study, and announced, "We are ready to meet change if necessary, not merely defensively, but with a constructive program based on facts, aimed to promote the mutual service, understanding, and security of the public and the medical profession." This society sent investigators to England to observe their system, to California to investigate group practice, to Washington and to several other places. They decided on opposing the intro-

*Presented February 4, 1935 at Study Class, Jefferson County Medical Auxiliary.

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duction into the United States of any of the present foreign systems. They name their plan "Mutual Health Service," since three groups are vitally concerned—the public, industry, and the profession. It is to be presented before their house of delegates for further action this fall. I will not tire you with details of this plan or with plans other places are already following. I am sure our medical society, too, will study and investigate this and other plans.

The experiment the medical society of New Jersey is making is interesting and different. If you are interested in the details of this plan, you can find them in the December A. M. A. Bulletin. Other methods, without insurance, are being tried in Alameda County, California, in San Diego, and an entirely different plan in Detroit. According to this plan, an estimate is made of the patient's ability to pay, and then the patient is given time in which to pay for the medical care received. We still have a chance to choose between these and sickness insurance. The word "sickness' is preferred to the word "health" by our own doctors. Most of us have heard Dr. Fishbein, editor of the Journal of the A. M. A. lecture, and would like to hear what he says about this momentous question. This was taken from an address he made at St. Paul on December 17, 1934. "The medical profession has always recognized changing conditions and has attempted to adapt itself to them. It has always encouraged experimentation and change if experiments justified change. It has never been willing to let itself be hurried into something new." Dr. Fishbein suggested "some system whereby the mass of workers could set aside money" for the emergencies, either through their employers or through a form of voluntary insurance. He was of the opinion that the larger insurance companies could probably work out some inexpensive form of insurance against "medical catastrophes."

Professor Winslow of Yale asserts the only logical way to deal with the problem is to separate medical service from payment for medical service and suggests two plans—distributing payment by absorbing it in the tax levy (state medicine), or equalizing payment through some form of regular annual "Health insurance." He contends this can be done for about $30.00 per person per year—the same amount now being spent for insufficient care. In a sense we really have "socialized medicine" now. We care for the indigent, war veterans, the insane, criminals, those having tuberculosis, and we do much to prevent contagious diseases and to make our country sanitary and livable. According to Mr. Foster in his article in the Graphic on "Medicine's Right to Control," 14 per cent of the annual national bill of the three and one

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half billion dollars for medical care is paid from tax receipts.

Many of our doctors do not approve of state medicine because "The burden of the state and national taxes already overload the citizen," so says Dr. Nathan B. Van Etten, vice speaker of the A. M. A. House of Delegates. He doesn't believe socialized medicine will be practical, but remarks, "The family doctor is fully aware that his status is changing daily." The average physician's income has been materially reduced. Many things besides the depression, or lowered income, are hurting the medical profession. Among them are syndicated newspaper articles on health, radio talks on self medication, free clinics springing up all over the land, and a surplus of doctors in the cities and a great scarcity in the villages. The relation of doctor and patient as we have always known it is a time-honored and almost sacred thing, but later-day economics is asking if this is the best plan. All plans of health insurance, state medicine, group practice, or whatever you choose to call it are in the experimental stage. While most of us believe that we are really in a changing era of medicine, nobody knows what is really the best plan. May high ideals and unselfish motives prevail.

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I've cooked my meals
I've made our house look neat
I've busied 'round the live-long day
I've even been to sleep.
And now the part of day I like
Is almost here again—
Some One is coming back to me
To make me happy, when—
He puts his arms 'round me,
And says: "Hello! How have you been?"
The day would not be livable
If evening never came.
And so, it's evening that I like—
It brings him home again.

BOOK REVIEW

The Romance of Labrador

The Romance of Labrador is written by Sir Wilfred Grenfell, an English physician.

As is so often the case, intellectual persons and those who are examples of the higher type of usefulness—such as Dr. Grenfell—are not always conspicuous for their ability to express themselves interestingly. Some of them, sad to say, are extraordinarily dull. But the qualities in Dr. Grenfell which have made him almost a saint among the fishers and trappers of Labrador are coupled with a vein of poetry and humor, examples of which appear to the reader like the sudden-coming-upon a patch of violets in the grass. Facts, scientific, historical, geological—and then—a bit of song—or a lilt of laughter.

It is amazing to note in how many directions the research of Labrador's history has taken Dr. Grenfell. How carefully he traveled each road—and with such an observing eye—is more amazing still. He has divided the Romance into pageants, with Labrador as the stage, and the reader the audience. The prologue to the play explains the geological formation of Labrador, of its rocks as the receding ice age disclosed it, these living rocks, the oldest and most mysterious in the world. The first act deals with the first known inhabitants, the Indians and the Eskimo. The second act presents the exploration of the Vikings—and the determined penetration of the French in their struggles with the

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English for the mastery of the continent. Following these come the peaceful invasion of the Moravian Brethren. The third act brings to view in a most entertaining and informative manner the seals, whales, walrus, cod, halibut, herring, and salmon—the trees and flowers—wolves, huskies, and caribou—auks, puffins, gulls—lovely butterflies and moths—and the winged ogres, capable of carrying messages of death, the black flies, lice, and the Labrador bot-fly—the inhabitants of the air, the land and the sea. The curtain descends and Dr. Grenfell takes the center of the stage. The epilogue gives the high points of Dr. Grenfell's own forty years on the Labrador.

Dr. Grenfell is no exile nor a martyr for humanity's sake. He loves Labrador. When he tells of the supposed landing of the Vikings on the Labrador Coast in the 12th Century he says "No reason has ever been shown why the Vikings would want to fare any farther than our beautifully wooded bays, with their endless berries, salmon, furs, and game, except that most people think of the east coast of Labrador as all barren, forbidding wastes, and forget that no part of it lies north of England and Scotland."

Dr. Grenfell sent to the College of Surgeons the evidence of the Eskimo's claim to be the inventors of the most modern type of surgical needle. This needle, used in sewing kayak, boots, or kossaks, is made of driftwood, curved so as to allow the sewing to be done on a stretched flat skin. It is long, three-sided as far as the middle, the back end being round to leave an easy hole for threading, and one which would not tear and cause leakage.

Hospitals have been established at the most strategic points of Labrador and Newfoundland, with the aid of friends of the Mission. A series of six nursing units, combined with the industrial work, have grown up between the hospitals.

His path has not been an easy one. However, his determined optimism helps him on, and he has not found life hard. Giving lavishly of his

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time toward helping others has left no time for despair. He says "The conditions to which our civilization has brought the world today suggest that there is something to be said for any country where **everyone not only can, but must work.** Difficulties, hard physical work and simplicity, are still invaluable assets in evolving the world's most important product—a real man."

(Mrs. Garnett H.) Durrett Oglesby Wilson.

Published by McMillan and Co., Chicago and New York, 1934, 329 pages. For sale at Wilderness Road Book Shop, Louisville, $4.00.

THE CHALLENGE OF LABRADOR

(Extracts from)

"In 1892 Sir Wilfred Grenfell, then a young English doctor straight from Oxford and the London Hospital, first visited the "bleak" coast of Labrador. There he found that the population of Labrador and Northern Newfoundland, composed of hardy English, Scotch-Irish fisherfolk, lived in isolated communities where doctors, nurses, dentists, and all other benefits of civilization were practically unknown. For generations a simple gun shot wound often meant death, while a carelessly handled fish hook involved, perhaps, the loss of an arm before relief arrived. Periodical epidemics swept the Coast, when the simplest of practical hygienic measures would have spelled prevention. Nutritional diseases caused by an unbalanced diet and severe and uncertain climatic conditions were prevalent, and tuberculosis in its most virulent form was rampant along the length of the coast.

"Wilfred Grenfell, a direct descendant of Sir Richard Grenville of Spanish Armada fame, had spent several years on a hospital boat, on the staff of the Royal National Mission to Deep Sea Fishers. The reality of unrelieved sickness and suffering was a challenge to his medical skill, Christian faith, and his natural love for all those who "go down to the sea in ships." In spite of a comfortable practice in Mayfair, he determined to cast his lot with these fishermen.

"That this challenge has been answered is shown by the record of achievement of which the Association and its workers are justly proud. Beginning with a staff of two doctors and one nurse, operating in a shack of timber cut from the forests surrounding it, has grown the Grenfell Mission. The intervening active years have seen the establishment of five hospitals, eight nursing stations, two orphanages, two boarding schools, agricultural, industrial and child welfare department, and social service work, as well as a large Seaman's Institute, in St. John's, Newfoundland.

"Last year the hospitals treated over twelve thousand patients, while two hundred children were cared for at the orphanages and boarding schools. Today, instead of the little ninety-ton ketch, the first ship in which Sir Wilfred crossed to Labrador from England, each summer finds half a dozen Grenfell boats nosing their way into remote harbors and fjords of the Coast with nurses, doctors and dentists. The hospital boat, Strathcona II, with Sir Wilfred at the wheel, cruises up and down the coast of Labrador, bringing relief and aid to the isolated settlements where the mail boats never call, and where often it is impossible for the people to reach a hospital."

REPORT OF THE CLEVELAND MEETING

(Continued from page 35)

question would be settled among the Southern States."

At 1:00 p. m. a Board Luncheon. 2:00 p. m. the Pre-Convention Board Meeting was continued with Mrs. Blake presiding. At 7:00 p. m. a dinner and reception honoring past presidents, national board delegates and wives of officers and delegates of the American Medical Association. Cleveland ladies and all

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women guests of the association were invited. Mrs. Willard Bartlett, of St. Louis, Missouri, was toastmistress.

Tuesday, June 12, 1934

At 8:15 a. m. we were entertained with a Southern Breakfast on the mezzanine floor of the Carter Hotel. Hostess, Mrs. Southgate Leigh, Norfolk, president of the Southern Medical Auxiliary. Honor guests were, Mrs. James Blake, president of the American Medical Auxiliary, and Mrs. Robert Tomlinson, president-elect of the American Medical Auxiliary.

The general meeting opened at 9:30 a. m. with Mrs. Blake presiding. Invocation—Greetings from the Cleveland Social chairman, Mrs. Clyde L. Cummer, wife of the president of the Ohio State Medical Association. Response by Mrs. Elmer J. Whitney, of Detroit, Michigan. In Memoriam, by Mrs. Frank S. Haggard, San Antonio, Texas, assisted by Mrs. Charles P. Corn, Greenville, South Carolina.

Mrs. Eben J. Carey, chairman of the committee on credentials and registration, reported 795 registered on the first day. National board, 37, delegates 57, alternates 23, members 146, guests 203, wives of Cleveland physicians, 329. On the last day of registration which was Thursday, 600 doctors' wives of the city of Cleveland had registered.

The recording secretary, Mrs. T. Mitchell Burns called the roll and responses were heard from thirty-four states.

Minutes of the eleventh annual meeting were read, corrected and approved.

Mrs. Blake, the president, made an excellent report. She told of her travels to the extent of about 5,000 miles, through many states and found the Auxiliaries doing splendid work; she emphasized the fact that she was proud of every state in the Union. Since May first, three new Auxiliaries were reported—33 new members. She congratulated and thanked her coworkers during her term of office as president. She also introduced The Red Book, "The First Twelve Years," saying that Mrs. Bartlett and she were giving to the Auxiliaries something not previously assembled, sketching the story of the development of the Auxiliary and its program through the first twelve years. This book sold for the sum of ten cents.

At the noon hour, six chartered buses, taxicabs and private cars were in waiting to convey us to the beautiful Lake Shore Hotel where we were entertained at a luncheon. Six hundred ladies were in attendance at this delightful affair. During the course of the meal, a style show was given by courtesy of the Little Shop, which was thoroughly enjoyed by everyone. Immediately after this, the tables for bridge were arranged on the terrace overlooking Lake Erie, for those who wished to play. Returning to the Carter Hotel the trip was made along the lake front, through Edgewater Park, affording the best view of the High Level Bridge and Cleveland sky line.

That evening at 8 o'clock, the opening of the general session took place at the Music Hall of the immense public auditorium. We were given an address of welcome by the Mayor of



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the City of Cleveland, music was furnished by one of the best orchestras.

Recommendations of the treasurer, Mrs. James F. Percy, were that: 1st. a substantial sum be allotted to the Corinne Keen Freeman Memorial Fund each year at the National Convention, as a part of the duties of the voting body until it reaches the sum of four thousand dollars. 2nd. That for this year a sum of five hundred dollars be ordered transferred to the Corinne Keen Freeman Fund. 3rd. That this fund shall be known as the Corinne Keen Freeman Revolving Fund and its purpose, the use of the incoming presidents.

The chairman of the Finance Committee, Mrs. Fred L. Adair, recommended that the budget be based upon our actual income alone, which at the present time is from national dues, and that additional dues, if received, may be drawn upon by the president for the Discretionary Fund.

The recommedation of treasurer, finance and supplies chairmen, are that the chairman of printing have the ordering and distribution of the treasurer's supplies, handbooks, filing cards, and any other supplies that may properly come to this department for distribution: and further, that provision be made for this work in the preparation of the Budget.

The legislative chairman, Mrs. Philip S. Doane, recommended that in order to eliminate the frequent usage and confusing words "to" and "of" in speaking of the Auxiliary "of" or "to" The American Medical Association, that this organization be known as the American Medical Auxiliary (favorably referred to Revisions Committee.)

Mrs. Arthur McGlothlan, Program Chairman, recommended: 1st. That we reprint 2,000 (or 3,000) copies of Study Envelope No. 3, which is now out of print. 2nd. That we revise, if need be, and reprint 2,000 (or 3,000) copies of Study Envelope No. 2, which is the most popular of our studies and of which there are on hand 735 copies. 3rd. That if possible sufficient money be allowed to reprint near the end of this year Nos. 4 and 5 if the demand for them continues. 4th. That part of the studies should be printed without envelopes since some organizations prefer them without envelopes. 5th. That we permit other organizations which distribute our studies among their members to use a stamp saying: "distributed by (name of organization)". 6th. When articles appear in Hygeia which are desired for use in our educational work, if such articles can be furnished to us by the A. M. A. at a price which is less than that for which we can print such articles, that we purchase such materials from the A. M. A. instead of having them printed elsewhere. 7th. Some requests have come to us to allow other organizations to reprint our studies. It was recommended that we permit other organizations to reprint our literature provided the Auxiliary is given credit for the literature, and provided that such duplication of literature be subjected to review by the program committee before being printed by another organization and provided that this recommendation first be approved by the Woman's Auxiliary Advisory Council.

Mrs. David S. Long—Public Relations Chairman asks that the Auxiliary support, through individual members in various communities, the policy of the National Congress of Parents and Teachers to encourage Summer Roundup Examination in the office of the family physician in preference to organized clinics. The latter to be supported, only when the former is impracticable and then in cooperation with the Medical Society. That the County Chairman of

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Public Relations, when authorized by the County Medical Society, select material from the Hygeia news sheets for local publicity. That Regional or County Health Institutes be promoted and be dignified with a printed or typed program.

Mrs. Willard Bartlett, Historian—Recommended that the guide for Historians issued this year to assist in preparing state and county histories, be included in the next printing of the Handbook. That as the First Twelve Years has been issued in answer to an express desire for informaion and also, as a stimulus for the work of the Auxiliary, that the Program Committee recommend its inclusion in County Programs during the coming year. That to assist its distribution and sale the Executive Board recommend to state and county presidents or their representatives at this meeting, that they order at ten cents a copy, a substantial number for sale or distribution to their members. That the Historian be allowed a budget sufficient to communicate at least twice a year with all State Historians for follow-up work where needed, and to assure the yearly addition to the National, State and County records. That historians and chairmen of archives who have done able work be not changed oftener than necessary. That a list of specific tasks supplementing the national program to be accomplished by the County Auxiliaries, be issued at the beginning of the coming year as has on occasions been previously done.

Mrs. Robert E. Fitzgerald, chairman on Press and Publicity, again brings to the attention of the Auxiliary women that the Bulletin of the American Medical Association is available to the wives of all Fellows of the American Medical Association. Those members of the American Medical Association who are not Fellows have the opportunity of subscribing to the Bulletin at a cost of fifty cents a year. It then follows that the Auxiliary section of the Bulletin is available to practically all Auxiliary members. It is recommended that members make it a point to read this periodical and that County Presidents take steps to call the attention of all County members to the Bulletin. It is recommended that there be a quarterly News Letter sent to the president, president-elect, and chairman of press and publicity of each State.

An address by Dr. Junius B. Harris, California, on "The Technique of Putting a Bill Through a State Legislature," was greatly enjoyed, and proved quite interesting. He assured us of the great need for legislation and our duty to combat with all the force we have at our command, as a group, to influence the legislative members. He advised us to see our legislator twice a month.

Wednesday, June 13, 1934

9:00 a. m. The general meeting and election of officers was held in the Ball Room, mezzanine floor, Carter Hotel, with Mrs. Blake presiding. After the reading of the minutes of the previous meeting, reports of various committees, the election and introduction of new officers took place; also the presentation of gavel and president's pin, then, final report of Committee on Credentials and Registration.

Following this, an address by Dr. W. W. Bauer of Chicago, Illinois, was greatly enjoyed and appreciated. Dr. Bauer is director of Bureau of Health and Public Instruction for the American Medical Association. Dr. Bauer has the literature printed which is approved by the committee of The American Medical Association, to use on our programs. He recommends that we advise the public to listen in on radio and, particularly, the American Medical Association Broadcasts.

At 1:00 p. m. the National Auxiliary Luncheon took place in the Rainbow Room at the Carter. Mrs. James Blake presided, and presented Mrs. William Brooksher, Jr., of Fort Smith, Arkansas as toastmistress. Guest speakers from the American Medical Association were in attendance. An address by Dr. J. A. Meyer, Minneapolis, Minnesota, professor of prevent-

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ive medicine, University of Minnesota, was enjoyed by everyone.

Thursday, June 14, 1934

At 9:00 a. m.—Conference meetings. Mrs. Rogers N. Herbert, chairman of Hygeia and Mrs. David Long, also chairman on public relations, presided. Mrs. Tomlinson, president-elect presiding at general meeting at 11:00 a. m. Plans for the year 1934-35 to this effect —that we use the new study envelopes, on milk, also the one on prevention of blindness along with the old ones. Use Hygeia more effectively on our health programs; that each state set aside sufficient money to buy literature used in the Auxiliary.

Among the many pleasant social events planned for us, was a visit to the home of Dr. and Mrs. George Edward Follansbee, where we were served tea, and enjoyed inspecting Mrs. Follansbee's rare, famous and interesting collection of Americana.

A musicale and informal reception at the Allen Memorial Medical Library of the Cleveland Medical Library Association, was also tendered to the women guests of The American Medical Association by the Ohio State Medical Association and the Academy of Medicine of Ohio. Members of the American Medical Association were also invited. Refreshments were served in the supper room following the musicale. The doors of the library were then opened for inspecting the beautiful building and the collections of rare books and interesting museum articles.

Excellent exhibits of the work done by the Auxiliaries which are units of the national organization were on display at the Carter Hotel during the time of the convention.

The usual outstanding social event of the occasion was the Bring Your Husband Dinner, which was given in the Rainbow Room at the Carter Hotel at 6:30 p. m. This dinner was sponsored by the Woman's Entertainment Committee of the Academy of Medicine, and the Woman's Auxiliary of the American Medical Association. This was followed at 9:30 by a reception and ball to the president of the American Medical Association in the ball-room of Hotel Cleveland.

Friday, June 15, the golf tournament was held at the Westwood Country Club.

The next meeting of the American Medical Association is to be held at Atlantic City, N. J., 1935. The Southern Medical Association convenes in San Antonio, Texas in November of the present year.

The number of reservations made at the leading hotels indicated a record breaking attendance, as there were 9,045 at 2:00 p. m. on Thursday, the fourth day of the convention.

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Mrs. James F. Blake, President

1. WHEREAS, The American Medical Association has entered into cooperative relationships with other organizations interested in the public health, to-wit, the General Federation of Women's Clubs, the National Congress of Parents and Teachers, the National Committee for Boys' and Girls' Club Work and the National Educational Association; and

WHEREAS: These relations have led to cooperative plans and policies in furtherance of the public health, and

WHEREAS: These relationships may be expected to undergo development or modification from time to time, now,

THEREFORE, BE IT RESOLVED by the Woman's Auxiliary to the American Medical Association, that the Auxiliary officers, local, State and National, familiarize themselves with the cooperative relationships aforementioned, and that any proposed plans for cooperative work with other associations be undertaken only with the advice of the component County Medical Societies, the constituent State Medical Societies, or the American Medical Association.

2. WHEREAS: During the past year circular letters have been sent out by a State president relating the particular activities of this State president and the work of one or more Counties in this State, which said circularizing of states is against the procedure of the Auxiliary to the American Medical Association, now,

THEREFORE, BE IT RESOLVED, to reiterate our stand that no letters of a circularizing nature are allowed unless the president of the Auxiliary to the American Medical Association has given her consent after she in turn has taken up the subject material with the Advisory Board if necessary, or the National Committee Chairman directly interested, And—

Also, be it brought to the attention of every State Charman of a department of work that all program work must be submitted to her State Advisory Council, and the National Chairman corresponding to her work in the individual State, for approval. No chairman to circularize any State outside of her own, unless under conditions aforementioned.

EXCERPTS OF REPORTS FROM THE STATES

State reports show a variety of activities.

Alabama has one county (Jefferson) which sponsors a health contest in the elementary schools. A silver cup is awarded on Child Health Day to the school showing the greatest improvement among its pupils in all phases of health. The cup is to be held for one year. Any school winning for three consecutive years will be awarded the cup permanently.

California realized the importance of organizing groups to work out a program of Adult Health Education.

Those States which showed outstanding features in philanthropic work are Delaware, District of Columbia, New Mexico, New York, Florida and Wisconsin.

Georgia presented sixty-eight talks on health for self education, while other states sponsored printed program suggestions and health essay contests.

Kansas considers the largest piece of educational work, the legislative department. The duty of the Auxiliary is to bring out the feeling of the State Representatives and Senators in respect to the medical profession, on such questions as the Basic Science Law, their religion, their family physicians and their specialists. Much can be gained if we are informed as to those qualifications of the State Representatives and Senators. We know at once whether they are in sympathy with Christian Scientists and Osteopaths, or with the medical profession.

We are glad to know that **Missouri** is "following suit" in publishing a quarterly bulletin. We wish it success.

In **Michigan** an effort is being made to have all county organizations uniform throughout



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the State, having the same fiscal year and time for election of officers.

The upkeep of a bed is a pet philanthropic project in **North Carolina.** (Why could not Kentucky model after this State's project in the upkeep of a bed for the State Tubercular Sanitorium located at Hazelwood, which is in dire need of such?)

REPORT OF ARCHIVES COMMITTEE

In compiling our Scrap Book for the Woman's Auxiliary to the American Medical Association, I did not include clippings where there were no duplicates, deciding our own book should be the more complete. Therefore in May, 1934, a scrap book containing twenty-two (22) pages, was forwarded to Mrs. Henry Miner, Chairman of the Archives, American Medical Association Auxiliary, to be exhibited at the meeting in Cleveland June 11 to 14. This book has been returned to me, and I am wondering what disposition, if any, should be made of it.

I beg to acknowledge receipt of clippings from Campbell-Kenton, Nelson and Perry Counties, and the announcement of the formation of an Auxiliary in Glasgow. These, with the clippings from Jefferson County which I have added, make 29 additional pages in our own State Scrap Book, which will be increased by reports of our Annual meeting in Harlan.

Respectfully submitted,
(Mrs. George A.) Jessie B. Hendon, Chairman.

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REPORT OF CORRESPONDING SECRETARY

It has been with very great pleasure that I have tried to serve our State President, Mrs. B. K. Menefee, as Corresponding Secretary for the Auxiliary to the Kentucky State Medical Association.

I have written letters, addressed envelopes, and such other duties as are required of a corresponding secretary. In fact I have responded to all demands made by our State President throughout the year.

Respectfully submitted,
(Mrs. Luther) Linnie M. Bach

REPORT OF TREASURER

I enclose herewith three copies of my report as treasurer of the Woman's Auxiliary to the Kentucky Medical Association to be presented at the annual meeting in Harlan, October 1-5. (For detail, see Auditor's report, pp. 108-109, October, 1934 issue of the Quarterly.) I am very sorry that I will be unable to attend this meeting.

Respectfully submitted
(Mrs. Curt H.) Edna R. Krieger.

REPORT OF BUSINESS MANAGER,

It is with pleasure I lay before you the records of the work that has passed over my desk as your business manager of the Woman's Auxiliary Section, Kentucky State Medical Journal, for the year 1934. (For detail see Auditor's report, pp. 110-112, October, 1934, issue of Quarterly.)

I want to extend my thanks to Mrs. B. K. Menefee our president, for appointing me her business manager. I have known Mrs. Menefee for several years through other social functions and to know her is to love her.

Thanks to you, Mrs. A. T McCormack, for so cheerfully responding to my eleventh hour telephone calls. I assure you that I appreciate it more than I can tell you and I shall always try to show you in actions.

To each of you who have acted in harmony and cooperation in securing ads and donations,

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who have encouraged and lifted the burdens of your business manager, and thus helped to promote the progress of our Auxiliary, I extend my sincere gratitude.

Now, as I conclude my records for the past year, may I state that I have striven to give you my best all through the year. I wish my best might have been better.

To my successor and all I wish success and happiness and leave with you two "Watchwords," Sincerity and Loyalty.

Respectfully submitted,

(Mrs. Peter) Amy Guntermann

REPORT OF CHILD HEALTH AND WELFARE COMMITTEE

One of the real children—perhaps the youngest of the Auxiliary—is the Committee on Child Health and Welfare. Being so young your Committee feels it has just made a start in its life in the Organization. But like all children we know we are going to grow, and hope we will eventually be a credit to all our foster mothers and sisters who are carefully nurturing us.

We can merely report the sponsoring of one page in the bulletin, and urge the cooperation of the county members in sending in material for the same. The chairman would much appreciate suggestions, for furthering of interest in this important line of our studies, and urges that there be no hesitation in writing to her anything that will strengthen our work of sending out information for the welfare of our youth and little ones.

Respectfully submitted,

(Mrs. Philip F.) Elizabeth Akin Barbour.

IN MEMORIAM

Mrs. Luther Bach, Bellevue

It is with profound sorrow that we, the members of the Auxiliary to the Kentucky State Medical Association must record the passing of two of our beloved members—Miss Vera Bonar of the Campbell-Kenton County Auxiliary and Mrs. Blanche Blake of the Jefferson County Auxiliary.

An early member of the State-at-Large, Mrs. May Boaz Greif, formerly living in McCracken County but a resident of New York City for several years, died there on July 7th, was brought back to Kentucky and buried in Paducah.

We cannot understand why these dear ladies should be taken from us at a fairly tender age, but we must bow in submission to the will of Him who doeth all things well.

Their active interest in our work was not lessened by their enforced retirement from activity because of ill health. The influence of these kind, unselfish, genuine characters is still felt and will live on among us.

I am reminded of a little poem by Edgar A. Guest entitled, "All That Matters"

When all that matters shall be written down
And the long record of our years is told,
When sham like flesh must perish and grow cold:
When the tomb closes on our fair renown
And priest and layman, sage and mottled clown
Must quit the places which they dearly hold,
What to our credit shall we find enscrolled?
And what shall be the jewels of our crown?
I fancy we shall hear to our surprise
Some little deeds of kindness long forgot,
Telling our glory. And, the brave and wise
Deeds which we boasted often, mentioned not.
God gave us life, not just to buy and sell—
And all that matters is to live it well.

These women lived their lives well. They fought a good fight, they finished their course, and their memory will remain as a choice possession for us who must carry on.

Kipling's "When Earth's Last Picture is Painted" might also be used in this connection.

When Earth's last picture is painted and the tubes are twisted and dried,
When the oldest colors have faded and the youngest critic has died,
We shall rest. And faith, we shall need it—lie down for an aeon or two,
Till the Master of all good workmen shall put us to work anew.

And those that were good shall be happy; they shall sit in a golden chair;
They shall splash at a ten league canvas with brushes of comet's hair.
They shall find real saints to draw from—Magdalene, Peter, and Paul:
They shall work for an age at a sitting and never be tired at all!

And only the Master shall praise us, and only the Master shall blame;
And no one shall work for money; and no one shall work for fame.
But each for the joy of working, and each, in his separate star,
Shall draw the thing as he sees It for the God of Things as they are.

These ladies who were so recently with us are now resting with only the Master to please.

We extend to the members of their families this expression of heartfelt sympathy in the great loss that they, in common with the community have suffered in their deaths.

We also wish to extend our sincere sympathy to all of our dear members who have become widows since our last meeting.

Since having come to this convention I have learned of the death of Dr. John G. Owsley who for many years has so faithfully served us as Sergeant-At-Arms. We shall miss him at every meeting and it is with deep regret that we learn of his passing.

(Proceedings continued in July Issue.)

ATTENTION!
MEMBERS OF THE STATE-AT-LARGE

Mrs. V. A. Stilley, Benton,

Chairman Historical Collections

The past year has been a very fruitful one. Those counties having organized Auxiliaries have every one sent in histories or biographical sketches of their pioneer doctors.

This year, if we have any great success, we must depend on you, Members of the State at Large, and the Secretaries of the County Medical Societies in those counties still unorganized. It is through the County Auxiliaries where the most good can be done. New County Auxiliaries is one of the goals of our president, Mrs. J. I. Greenwell. We urge you to try again to organize your county. But in case that cannot be done, will you not, State-at-Large members, get busy and have the history of every pioneer doctor of your county in the hands of the chairman of Historical Collections before the State meeting in September? We would like, again, the thrill of turning over to the State Medical Association the much desired information of the lives, the heroic deeds, the ingenuity, and accomplishments of those as yet "unhonored and unsung," who pioneered in medicine in our State. Will you not please help?

News From the Counties

CAMPBELL-KENTON

Mrs. H. C. White, our president, was hostess at an enjoyable Christmas party given for the members of the Woman's Auxiliary to the Campbell-Kenton Medical Society at her home in Covington, on December the 6th.

Decorations indicative of the Yuletide were artistically placed about the home for this affair.

Following a social hour, Miss Eva Joe White, the lovely little granddaughter of the household, presented each guest with a Christmas gift, after which she invited them to the dining room, where a delicious luncheon was served.

The table was centered with a miniature Christmas tree with red tapers in silver holders at either end. Seated around the table were: Mrs. C. A. Menefee, Mrs. Irene Schaber, Mrs. J. G. Renaker, Mrs. John Todd, Mrs. S. A. Biltz, Mrs. J. H. Caldwell, Mrs. W. R. Miner, Mrs. B. K. Menefee, Mrs. N. A. Jett, Mrs. Chas. Baron, Mrs. C. A. Morris, Mrs. Luther Bach, Mrs. J. A. Caldwell, Mrs. Jos. White, Mrs. H. C. White and Misses Pearl Salvedo, Mary Lee Caldwell, Barbara Renaker, Camilla Powers,

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Virginia White, Pauline C. Haley and Eva Joe White.

Mrs. White was assisted in extending hospitalities by her daughters, Miss Virginia White and Mrs. Joseph White.

Baskets of jellies, jams and canned goods were sent to both the Campbell and the Kenton County Orphanages at Christmas time.

A Christmas box consisting of dolls, toys, books, Victrola records, clothing, and layettes was sent to Mrs. Mary Breckinridge of the Frontier Nursing Service at Hyden.

On January 3rd, following the regular monthly business meeting of the Auxiliary at St. Elizabeth's Hospital, Mrs. Chas. Baron reviewed "Testament of Youth" by Vera Brittain after which the members joined the Doctors and heard a very interesting talk and discussion on "Medical Economics" by Dr. A. T. McCormack, Louisville.

The February meeting proved to be of unusual interest. Mrs. Chas. Baron, program chairman, prepared questions in regard to "State Medicine" which were distributed to the members who in turn gave their answers. A very timely and interesting discussion followed, the result of which is an aroused and keener interest in State Medicine and all felt more enlightened on the subject.

Election of officers will be held at the March meeting after which a book review will be given by one of the members.

A social meeting will be held on March 21 at Speers Hospital, Dayton, at which time the Auxiliary will entertain the nurses of the hospital. The musical program will be given by the members of the 620 Woman's Club.

The annual banquet of the Auxiliary will be held sometime in April.

For his unusual ability on the violin-cello, Byron Bach, 12-year-old son of Dr. Luther Bach and Mrs. Bach, Bellevue, has been awarded the full scholarship for 'cello instruction offered by Mr. Fritz Bruch of the Cincinnati Symphony Orchestra and Conductor of the Northern Kentucky Amateur Symphony Orchestra. The scholarship entitles young Bach to a year of study under Mr. Bruch and a place in the 'cello section of the Northern Kentucky Orchestra. He is a pupil of the Bellevue High School.

At the January meeting we listened-in on the Medical Economics program of the County Medical Society when Dr. A. T. McCormack discussed this important subject. At the February meeting we discussed it ourselves, each giving a three-minute speech. And—it was interesting to us!

Mrs. J. M. Blades of Butler, a member of Campbell-Kenton Auxiliary has been active in Jane Todd Crawford work. At the April, 1934, meeting of her Book Club, she read Our Pioneer Heroine of Surgery—Mrs. Jane Todd Crawford, before the 25 members present. In September, at the home of Dr. and Mrs. E. H. Wallin, Brooksville, she read Mrs. P. E. Blackerby's Jane Todd Crawford, The Model Patient, before the twenty-three wives present of the members of the Licking Valley Medical Society, then in session in Brooksville. In December, Mrs. Blades secured publication, in the Falmouth Outlook, of a short story on Jane Todd Crawford.

GRAVES

The Graves County Auxiliary met at the home of Dr. Wm. J. Shelton and Mrs. Shelton, Mayfield, Tuesday evening, December 18, Miss Jincy Hunt, President, in the Chair. Eleven members and two visitors were present. One new member, Mrs. Edna Merritt, Fancy Farm, joined at this meeting. A report of the annual meeting held in Harlan was presented by Mrs. H. H. Hunt, Mrs. H. V. Usher and Mrs. W. J. Shelton.

It was voted to change the Fiscal Year to March 1-February 28. It was also voted to send a donation of $5.00 to the Jane Todd Crawford Fund.

The President appointed Mrs. John L. Dismukes, and Mrs. Moza W. Hurt as a committee to collect old instruments and other relics for the Doctor's Shop in Harrodsburg. Mrs. H. V. Usher was commissioned to secure the biography of Dr. Matthews who, in April, 1896, delivered the Lyons Quintuplets in Mayfield, all of whom died while very young, due, the mother

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declares, to "too much company. Sight-seers from miles around gave the babies no rest." These babies, all boys, were named Matthew, Mark, Luke, John, Paul.

The annual election was held with the following new officers for the ensuing year:

President, Mrs. H. V. Usher, Sedalia; Vice-President, Mrs. Moza W. Hurt, Mayfield; Secretary-Treasurer, Miss Jincy Hunt, Mayfield.

Chairmen appointed were: Hygeia, Mrs. Moza W. Hurt, Mayfield; Jane Todd Crawford, Mrs. H. H. Hunt, Mayfield; Tuberculosis, Mrs. Wm. J. Shelton, Mayfield.

A social hour with delicious refreshments served by the hostess, Mrs. Shelton, concluded the meeting which adjourned to meet again in March.

Mrs. H. V. Usher sent in a newspaper clipping dated January 11, 1935, with the announcement from Seattle that Dr. C. E. Reddick, son of Dr. and Mrs. J. T. Reddick, Paducah, (former Presidents, he of the K.S.M.A., she of W. A. K. S. M. A.) had been appointed a Lieutenant, Junior Grade, United States Medical Corps, and, ranking next to the Senior Surgeon, American Mail Line, sailed on the President Grant as the ship's surgeon on a voyage to Japan, China and the Philippines. Formerly with the Mayo clinic, Dr. C. E. Reddick has spent the recent years at sea and, already has performed five major operations at sea aboard ships of the American Mail Line.

HARLAN

Mrs. J. W. Nolan, State President-Elect, had the misfortune to fall and fracture her right shoulder late in January but is hopeful that she may regain the use of her writing hand and arm in the near future.

Mrs. Fred Stout, Louellen, has been at St. Anthony's Hospital, Louisville, with her husband who has been undergoing treatment there.

Mrs. R. L. Essary, daughter of Dr. L. F. Seale, Knoxville, Tennessee, died February 25 at her home, Smith Addition, Harlan County, following a prolonged illness.

Mrs. W. M. Martin, Louisville, made a flying trip to Louisville recently.

JEFFERSON COUNTY

The Study Class of the Jefferson County Auxiliary met on Monday, January 7th at the Brown Hotel. Sir Wilfred Grenfell's "Romance of Labrador," was reviewed by Mrs. Garnett H. Wilson. Mrs. J. Duffy Hancock read an original paper on "The Causes of the Deaths of Famous Persons." Current events were presented by Mrs. Oliver Holt Kelsall.

The February meeting held on the 4th had another interesting program. An original paper on "The New Era in Medicine" was presented by Mrs. J. B. Lukins (see page 43) "The Life of Florence Nightingale" was the subject chosen by Mrs. Curt Krieger. (See page 33.)

Mrs. Kenneth Kannard presides as Chairman of our study group.

The Sewing Unit continues to keep up its good work, having met on Tuesday, January 8th, with Mrs. John M. Keaney at her home on Eastern Parkway. Twenty-two members were present.

On Tuesday, February 12th, Mrs. Wm. Edgar Fallis was host to this group at her home

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on Sherwood Ave., twenty-four members present.

Mrs. J. T. Crice's invitation to meet in her new home in March has been eagerly accepted. While much work is accomplished during the day's meet, opportunities for a little gay chatter, and a half-hour of undivided attention to the luncheon table are never overlooked. Our chairman, Mrs. F. Parks Ogden, is still sojourning in Texas, but is expected home soon. Mrs. S. C. McCoy ably directs the work during Mrs Ogden's absence.

A bridge party sponsored by the Sewing Unit under the chairmanship of Mrs. S. C. McCoy, assisted by Mrs. John M. Keaney and Mrs. Charles H. Moore was given on Tuesday, February 5th in the Architects' and Builders' Exhibit rooms.

The nice sum of fifty-six dollars was realized. The funds of this unit are used for purchasing material which is made into garments at our monthly sewing meetings and distributed by our Hospital Committee.

The Quarterly Spring Luncheon Meeting of the organization took place on Monday, March 4th, in the Roof Garden of the Brown Hotel. Mrs. L. L. Smith presided and presented Dr. Irvin Abell as guest speaker. His subject, Current National Legislation, of great interest to all present, was given undivided attention and we are greatly indebted to him for his time and efforts to enlighten us. Again, we thank you, Dr. Abell.

Promptly at 1:00 p. m. a delicious luncheon was served to sixty-four members and guests. The decorations were both dainty and spring-like. The speakers' table, seating eight, was decorated with a large center-piece and two smaller bowls of yellow snapdragons, the table being edged with Southern Smilax. Vases of the same flowers decorated the other nine tables.

Following luncheon a business meeting was held after which the nominating committee, composed of Mrs. George A. Hendon, chairman, Mrs. W. E. Fallis, and Mrs. J. Duffy Hancock, presented the names for our new officers, and they were elected as follows:

President, Mrs Stephen C. McCoy; 1st vice-president, Mrs. J. Paul Keith, 2nd vice-president, Mrs Roscoe Conklin Adams; 3rd vice-president, Mrs. Ernest H. Koch, 4th vice-president, Mrs. Hugh Rodman Leavell; secretary, Mrs. Lamar Wm. Neblett; treasurer, Mrs. Walter Irvine Hume; Parliamentarian, Mrs Melvin C. Baker.

The newly elected officers will be officially installed at the June meeting.

Come-and-See Trips to various civic, health and welfare agencies are planned for the Lenten Season. More extended notice will be given in the July issue.

Dr. and Mrs. John C. Rogers have had as house guest their son, Lt. Thomas W. Rogers, U. S. N. Mrs Rogers and little daughter Jane Douglass. Lt. Rogers is stationed on U. S. S. Dewey.

Captain Garnett H. Wilson has been transferred from Camp Knox to Fort Oglethorpe, Georgia. We regret that we must lose Mrs. Wilson. She was an interested member of the study group and the Sewing Unit and we will miss her greatly.

The following members have returned home after sojourning in Florida: Mrs. M. C. Baker and son Clinton, Mrs. Oliver Holt Kelsall, Mrs. James S. Lutz, and Mrs. S. C. McCoy.

Mrs. Richard T. Hudson has not yet returned.

Mr. and Mrs. Bernard Bloemer (Caroline Crice) have moved to Lexington. They returned for a week-end visit, March 2nd, with their parents, Dr. Thomas J. Crice and Mrs. Crice, 1320 Cherokee Road.

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Mrs. I. A. Arnold, Weissinger-Gaulbert Apartments, a charter member of the Jefferson County Auxiliary, expired Saturday, February 9th, following an illness of but a few hours.

We were shocked to learn Thursday morning March 7th, that Mrs. Octavus Dulaney had expired very suddenly. She had attended the quarterly luncheon on the previous Monday and appeared to be in the gayest mood.

NELSON

Our State President, Mrs. J. I. Greenwell, New Haven met with a painful and almost fatal automobile accident while in Louisville with her son, on the morning of January 2nd. After spending some time at St. Joseph's Infirmary, Mrs. Greenwell returned to her home where she is recovering and will, we hope, soon be entirely well again.

An Essay Contest on the subject of The Jane Todd Crawford Trail is being sponsored by our Auxiliary in the high schools and in the 7th and 8th grades of the elementary schools of the county. Mr. Charles W. Hart, Superintendent, is giving his hearty support to this project. The contest closes March 15, and the decision is due March 25, on essays of 500 words from the high school students and of 300 words from grade students. The essay receiving first prize will be awarded $2.00, the second, $1.00 and the third, a box of printed stationery. The first two prizes are offered by the Nelson County Auxiliary and the third by the Standard Publishing Company, publishers of the Bardstown Standard.

SAMSON COMMUNITY HOSPITAL DISTRICT

Our February meeting was held on Friday, February 15, at the Hospital in Glasgow. Eight members and three visitors from six different towns met at ten o'clock in the morning and sewed for the Hospital until three o'clock in the afternoon Then we held a business meeting. Heartfelt sympathy was expressed for two of our members, Mrs. George W. Bushong and daughter, Miss Corinne, of Tompkinsville, Monroe County, in the recent death of Dr. George W. Bushong. We presented the hospital with a framed picture, ready to hang, of Uncle Jimmy Cumming, Albany, Clinton County, who enjoys the distinction of being the first patient treated at the hospital. Then, at four o'clock, a delicious tea was served. And—what a good time we had! Oh, yes! We did have luncheon. An excellent luncheon served for us in the Nurses' Home. More new members are promised for our Auxiliary which covers twelve counties. We are scattered. Distances are great. Some roads—not too good! But—we get there.

A summary of Auxiliary activities listed by the President, Mrs. E. A. Barnes, in a letter to the Editor shows intelligent, enthusiastic interest in the support of the local medical profession through Auxiliary projects. They are given, as follows:

1. We unearthed one old book for the Doctor's Shop. It has been sent to the Committee.
2. We have five new members.
3. We sewed one full day for our Community Hospital. Hope to do it again.
4. Not only Barren County (Glasgow) but all the counties in our group have decided to put on, immediately, in the schools, an essay contest on the subject of Jane Todd Crawford. A prize will be awarded in each county for the best essay and it is up to the chairman in each county to secure that prize, a fifty cent book of her own selection.
5. Our Christmas Box was sent to the Frontier Nursing Service, Inc., Hyden, and a gracious note of thanks from Mrs. Breckinridge was read by our Secretary, Mrs. C. C. Turner, at the February meeting.
6. Through our Auxiliary sale of Christmas Seals, one of our most promising young girls, unfortunately stricken with a severe attack of tuberculosis, is now in Hazelwood being given the needful care which, we hope, will restore her to this community (Clinton County) again, soon. We also provided for an X-Ray made on one of our young boys. A balance of $25.84 is still due for this work but we expect to raise these funds, and more. A negro minstrel, The Chicken Stealing Case of Ebenezer Company to be given in Clinton County on March 4th, will we hope, help to meet our expenses.
7. A box of needful things for Hazelwood is planned for early sending.
8. More support for the Quarterly is pledged soon. (Two ads have already been sent from this Auxiliary.)
9. Our banquet is planned for about the middle of March when we expect to meet with our nurses and doctors during the Nurses Institute in Glasgow.

Just as we go to press comes the good news that Pulaski County now has an organized Medical Auxiliary. This announcement comes from Mrs. M. C. Spradlin, Somerset, who asks for suggestions for suitable programs. We hope to have more information, including the list of officers and members for publication in the July issue.

OFFICIAL DIRECTORY

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

ANNUAL MEETING
ATLANTIC CITY, JUNE 10-14, 1935

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WOMAN'S AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION

ANNUAL MEETING

ST. LOUIS, NOVEMBER 19-22, 1935

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KENTUCKY MEDICAL JOURNAL—PART II

WOMAN'S AUXILIARY SECTION

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Jane Todd Crawford Memorial

DANVILLE, KENTUCKY, MAY 30, 1935

JULY, 1935

OFFICIAL DIRECTORY

Woman's Auxiliary

TO THE

Kentucky State Medical Association

1934-1935

ANNUAL MEETING, LOUISVILLE, SEPTEMBER 30-OCTOBER 3, 1935

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KENTUCKY MEDICAL JOURNAL, PART II
WOMAN'S AUXILIARY SECTION
519 Tenth Street Bowling Green, Ky.
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AT THE A. M. A.

At the recent annual meeting of the American Medical Auxiliary in Atlantic City, Mrs. J. Bonar White, Atlanta, President of the Southern Medical Auxiliary, presented the Georgia Project designating one day each year as Doctors' Day. This was adopted by the American Medical Auxiliary, subject to the approval of the Advisory Council. Your attention is called to the Georgia Resolution, found on page 66.

Would it not be advisable for Kentucky to follow this fine example of our Sister State?

THE PRESIDENT'S MESSAGE

Mrs. J. I. Greenwell, New Haven

May I call to your attention, the interest that the State Medical Association is evidencing in the Auxiliary as a connecting link between the medical profession and the laity? Let us strive to merit that position. On one occasion, a representative of the Medical Association referred to the Auxiliary as: "Our Good Right Arm, Our Trusted Associate."

It might be well to use this short sentence as an Auxiliary Motto: "DO IT NOW." It is an imperative injunction to attend promptly, and properly, to present duties. And, "Never put off until tomorrow what can and ought to be done today" is another reminder that the Value of Today, every minute of Today, may not be forgotten.

These are busy days. There are so many things for women to do—in the home, church, clubs, charities and numberous civic organizations—that it seems there is not time enough in the span of life to accomplish one's desires. Indeed, it is true that one woman cannot meet all the demands for service in good causes that are offered each day and every woman must decide for herself how she can best serve her husband, children and community. The true doctor's wife, like the faithful physician, himself, will never be a slacker and her greatest opportunity for service, outside her home, would seem to be in working shoulder to shoulder with her husband in his altruistic efforts to eradicate disease and, in so doing, add happiness and prosperity to all those about her.

The Woman's Auxiliary offers to the doctor's wife, an opportunity for service that is denied the women of other groups, and, surely, she will measure up to her obligations. The doctor's wife is to her husband as Longfellow's Minnehaha to Hiawatha:

"As unto the bow the cord is,
So unto man is woman.
Though she bends him, she obeys him,
Though she draws him, yet she follows—
Useless each without the other."

Our Thirteenth Annual State Meeting will be held in Louisville, September 30-October 3rd, and we anticipate seeing you and your husband there. All reports of State Officers and Chairmen should be in my hands by August 1st. Please help me by granting this request so that I may include your work in my reports to the House of Delegates and to the Auxiliary Body. And, if you know of any particular item of interest that should be included in our program, will you please suggest it to the Chairmen of the Committees who will gladly welcome your requests? Mrs. J. W. Nolan, Harlan, is Chairman of the Program and Mrs. S. C. McCoy, Louisville, President of the Hostess Auxiliary, in charge of the entertainment.

-:- EDITORIALS -:-

"—THEIR WORKS DO FOLLOW THEM"

"Blessed Are The Dead Which Die In The Lord from henceforth;" saith the Spirit, "Yea, that they may rest from their labours; and, their works do follow them."

Thus wrote St. John The Divine.

Thus, for the first nine words, wrote the Reverend James Crawford on the tombstone of his mother, Mrs. Jane Todd Crawford, an epitaph truer than he knew, more richly deserved than even his loving filial devotion and honest admiration could determine. Yet, there it is—on the plain white stone over her grave in the Johnson Cemetery at Graysville, Indiana. And, copied in all its noble dignity, there it is on the face of the simple granite monolith memorial erected May 30, 1935, in McDowell Park, Danville, by the Kentucky State Medical Association as a token of their appreciation of the inestimable service she rendered, to humanity through her sacrificial submission to the experiment, and upon which the modern abdominal surgery they practice has since been developed.

Testifying, in no unmistakable terms, that she has been remembered, this chaste and beautiful memorial stands in mute but impressive acknowledgment that Kentucky's present-day followers of her surgeon, Dr. Ephraim McDowell, recognize that necessary unity of purpose and cooperative procedure which were absolutely essential to the success of The Great Experiment.

A granite memorial shaft with bronze medallion, relief, dedicated May 14, 1879, in honor of Dr. Ephraim McDowell by the earlier Kentucky State Medical Association, is located but 50 feet to the right. This memorial nearness of the surgeon to his patient is a fitting symbol of his protection, as well as a just recognition of their joint heroism and magnificent accomplishment.

Altogether lovely, are these acts of the Kentucky State Medical Association. True gratitude for favors past is a rare virtue. These examples give us pause to realize how precious is true service and true gratitude, the beautiful flowers of unselfish love. More reason than ever have Auxiliary members for pride in their husbands, fathers and brothers, together with their forerunners, composing the Kentucky State Medical Association.

Gentlemen, we salute you!

OUR ANNUAL MEETING

The State Annual Meeting of the Woman's Auxiliary will be held in Louisville at the same time and place as the Annual Meeting of the Kentucky State Medical Association, September 30-October 3, 1935. The meeting place will be at the Brown Hotel.

Auxiliary members may well make reservations now, if their husbands have not already done so for both of them, as a record attendance is expected.

Mrs. Joseph W. Nolan, Harlan, President-Elect, is Chairman of the Program and has arranged for interesting and instructive meetings.

Mrs. Stephen C. McCoy, newly installed President of the Jefferson County Auxiliary, the Hostess Auxiliary, has committees at work arranging for the entertainment which promises many delights.

PROGRAM MAKING TIME

During the summer weeks, when most Auxiliary and Club organizations are vacationing, is an excellent time for officers and committee chairmen to plan the program of work for the new year. A program planned in advance prevents many anxieties and proves a great advantage to all concerned—officers, chairmen, members and, most particularly, to those taking active part.

Like budgeting income, this budgeting of time is helpful and develops wise expenditure. It is most helpful when reasonable allowance is made for extra and unexpected expenditure.

It is well to remember that there may be at each meeting, unanticipated, yet, timely topics requiring immediate discussion. Or, a visiting celebrity may be invited to speak. Yet, with a good program arranged months in advance, and entirely filled, time for these extra items is wanting. The result is either a too-crowded program or a partially completed program, bringing trial and disappointment to the program chairman and to the presiding officer, for actually, each precious hour contains but 60 fleeting minutes and each minute but 60 little seconds.

A well arranged, advance program, allowing lee-way for extra time—always fillable with sociability—at each meeting, brings pleasure and satisfaction for all.

S-O-S FROM THE BUSINESS MANAGER

Mrs. Wm. H. Emrich, Louisville

We need Ads to carry on the Quarterly successfully. If each County Auxiliary would make an effort to get at least one ad, it would lessen our financial worries very materially. However, we are deeply grateful to our friends in the Auxiliaries throughout the State for their efforts in procuring ads and we hope all Auxiliaries will respond overwhelmingly to our plea for help.

PRELIMINARY PROGRAM
THIRTEENTH ANNUAL MEETING
of the
WOMAN'S AUXILIARY
to the
KENTUCKY STATE MEDICAL ASSOCIATION
BROWN HOTEL
LOUISVILLE, KENTUCKY
September 30—October 1-2-3-4, 1935

Every woman attending the Convention is cordially invited to all these meetings.

Monday, September 30

9:00 A. M —4:00 P. M.

Registration Brown Hotel Lobby
(Every woman is requested to register immediately upon arrival)

2:00 P. M.

Round Table Conference
Louis XVI Room, Brown Hotel

Film—Ascariasis

3:45 P. M.

Louis XIV Room, Brown Hotel

Pre-Convention Board Meeting,
Mrs. J. I. Greenwell, New Haven, presiding
(All County Presidents, State Officers and Chairmen are urged to be present. All members are invited).

8:00 P. M.

Parlors A-B-C, Brown Hotel

President's Report to the House of Delegates
Mrs. J. I. Greenwell, New Haven.

Tuesday, October 1

9:00 A. M.—4:00 P. M.

Registration Brown Hotel Lobby

9:00 A. M.

Roof Garden, Brown Hotel

Joint meeting with the Kentucky State Medical Association.

Installation of the President of the Kentucky State Medical Association.

Opening Session, General Meeting

9:45 A. M.

Parlors A-B-C, Brown Hotel

Presiding Officer, Mrs. J. I. Greenwell, New Haven.

Song

Invocation

Address of Welcome

Response

Messages from Kentucky Medical Association:
- C. C. Howard, M. D., Glasgow, president.
- J. B. Lukins, M. D., Louisville, president-elect.

Advisory Council:
- Virgil Kinniard, M. D., Lancaster,
- A. T. McCormack, M. D., Louisville,
- V. A. Stilley, M. D., Benton.

Reports of Committees:
- Arrangements
- Credentials ..

Roll Call

Minutes of the Twelfth Annual Meeting

Report of the President, Mrs. J. I. Greenwell New Haven

Reports of County Delegates

Announcements

In Memoriam

Recess

12:30 P. M.

Subscription Luncheon

Tuesday Afternoon

Crystal Ball Room, Brown Hotel....

Address Mrs. Mary Breckinridge

Wednesday, October 2

9:00 A. M.—4:00 P. M.

Registration Brown Hotel Lobby

Second Session, General Meeting

Presiding Officer, Mrs. J. I. Greenwell, New Haven

Reports:
- Officers:
- Chairmen of Committees
- Delegates:
- Woman's Auxiliary to the American Medical Association—Miss Martha Greenwell, New Haven
- Woman's Auxiliary to the Southern Medical Association—Mrs. E. S. Allen, Louisville

Unfinished Business

New Business
- Report of Committee on Resolutions
- Report of Committee on Credentials
- Report of Nominating Committee
- Election of Officers

Introduction of New Officers
- Installation

Address of the President.....
.....Mrs. Joseph Wynn Nolan, Harlan

Adjournment

12:30 P. M.

Annual Luncheon, Subscription

Toast Mistress—Mrs. J. I. Greenwell, New Haven

Honoring our National and Southern Presidents:
- Mrs. Rogers N. Herbert, Nashville, Tenn.
- Mrs. J. Bonar White, Atlanta, Georgia.

Special guests representing the Kentucky State Medical Association:
- C. C. Howard, M. D., Glasgow,
- J. B. Lukins, M. D., Louisville

Our Advisory Council:
- Virgil Kinniard, M. D., Lancaster
- A. T. McCormack, M. D., Louisville
- V. A. Stilley, M. D., Benton

2:30 P. M.

Post-Convention Board Meeting, Mrs. Joseph Wynn Nolan, Harlan, presiding.
(All County Presidents, State Officers and Chairmen are urged to be present. All members are invited. Plans for the coming year will be considered, your suggestions are earnestly requested).

6:30 P. M.

Annual Dinner of the Kentucky State Medical Association

DOCTOR'S DAY

Whereas, we are well informed about the histories of soldiers and sailors, kings and statesmen, inventors and discoverers, saints and craftsmen, but omit the struggles of the Medical Profession in their unwearied pace to make human living safe, which struggles have been a real force in shaping and changing civilization; And,

Whereas, these pursuers of Truth, the Practitioners of the Medical Arts have made valiant struggles and sacrifices for the defense of human living; Now, Therefore,

Be It Resolved, by the Woman's Auxiliary to the Medical Association of Georgia, that March 30th, the day that famous Georgian, Dr. Crawford W. Long first used ether anesthesia in surgery, be adopted as Doctor's Day. the object to be the well being and honor of the Profession, living and dead, and the study and commemoration of this promotion of health and happiness during the ages: the observance demanding some act of kindness, gift, or tribute.

So reads the resolution passed in May, 1934, which made Doctor's Day a day of commemoration for the Medical Auxiliary throughout the State of Georgia. This year March 30th was again observed by the various county groups. Through newspaper articles the public was informed of the significance of the day and by its observance the auxiliaries showed their medical societies how deeply they appreciate the medical profession. To quote Mrs. J. Bonar White in her account of this day: "We like to remind our members that the most important assets of the Healing Art are the men and women in it and that to honor and to care for them is our right and privilege. The Day has aroused interest in the entire South. Other States, hearing what the Georgia Auxiliary sponsored this year, have sent inquiries and are requesting approval of their state conventions for celebrating "Doctor's Day" in their own States."

SYMPATHY

The heartfelt sympathy of all Auxiliary members is extended to two of our State Auxiliary Past Presidents, Mrs. B. K. Menefee, Covington, and Mrs. J. T. Reddick, Paducah, in the recent loss of their husbands. Dr. Reddick passed away on Sunday, May 12th, and Dr. Menefee, on Monday, May 20th. May The Comforter be with you, both, always.

FROM THE NATIONAL NEWS LETTER

Edited by

Mrs. Robert E. Fitzgerald

Wauwatosa, Wisconsin

"AN AUXILIARY MEMBER SHOULD KNOW"

The Journal of the Medical Association of Georgia lists the following under the heading "An Auxiliary Member Should Know"—

1. Understand the purposes and objectives of her Auxiliary.
2. Receive the particular charge given by Local, State, Southern, National.
3. Become informed about:
 - a. Personal and community hygiene.
 - b. Administration of local, state, national health.
 - c. Medical and health laws, local, state, national.
 - d. The health of the community.
 - e. Communicable diseases; their prevention and control.
 - f. Her health in relation to her community.
 - g. General problems of health all should know.
 - h. Approved educational matter—where to obtain it.
 - i. The development of the medical arts.
 - j. Why the American Medical Association urges the promotion of HYGEIA; how done.
 - k. What legislation the Medical Society sponsors; why; how the Auxiliary acts as reserve force; what the individual may do.
 - l. Philanthropic work related to the medical profession; service by her Auxiliary; what her Auxiliary is doing; why.
 - m. What lay organizations are doing in her community.

Mrs. John V. Barrow, president of the Los Angeles County (California) Auxiliary has an interesting idea for the coming year. She plans to give fifteen minutes of each meeting to a program of education for the members themselves. She has named this "What the Doctor's Wife Should Know." Under this will come such topics as: A comparative study of educational requirements for doctors of medicine, public health doctors and nurses, den-

(Continued on Page 78)

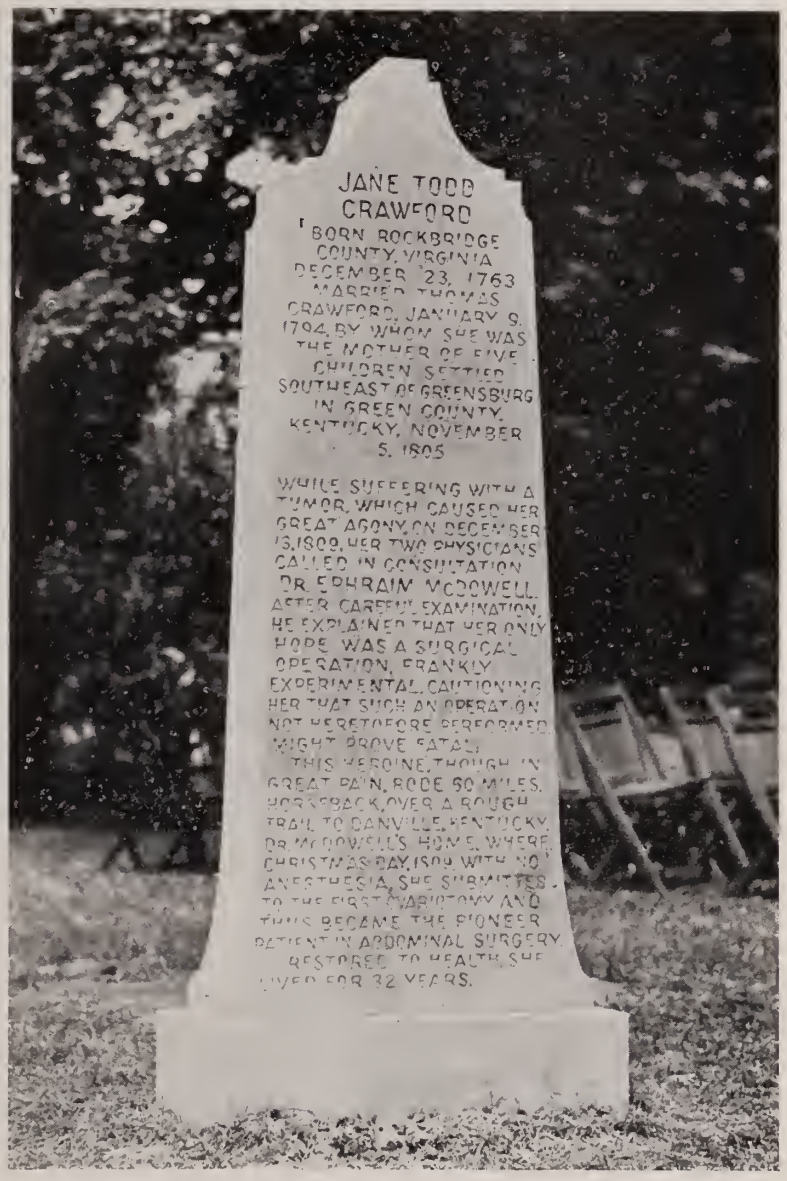
MAMMOTH CAVE OF KENTUCKY
Mammoth Cave Hotel New Entrance Hotel
The Cavern Coffee Shop
W. W. THOMPSON, General Manager

THE JANE TODD CRAWFORD MEMORIAL
AT THE DEDICATION

Our cover for this issue shows a reproduction of the beautiful unveiling of the Jane Todd Crawford Memorial erected by the Kentucky State Medical Association in McDowell Park, Danville, and dedicated on the afternoon of Memorial Day, May 30, 1935.

Only those who were present can realize the solemn beauty of the dignified ceremony as the graceful young sponsors reverently withdrew the white veil revealing the simple stone which seemed to emerge in chaste, yet royal, splendor, like a beautiful queen stepping forth in bridal array while a gentle summer breeze whispered in the trees, leaves dancing joyously, a blue bird thrilled its happy lay, a cardinal sang his prelude to a glorious symphony, and the sun, in brilliant glory, cast his evening rays, like a heavenly benediction over all.

The monument was unveiled by four young women, Miss Louise Howard and Miss Margaret Richards, Glasgow; Miss Jacqueline Howard, Harlan, and Miss Catherine Durham, Greensburg.



On the Back of the Monument—Brief Story of Great Experiment

Dr. W. N. Wishard, 84, Indianapolis, oldest practicing physician in Indiana, brought earth from the grave of Mrs. Crawford and placed it around the base of the monument. Dr. Walter N. Thompson, Sullivan, nearby County Seat of Mrs. Crawford's last home in Indiana, also brought earth from Mrs. Crawford's grave and placed it around the base.

Dr. John H. Blackburn, Bowling Green, Past Councilor, officially placed a wreath at the base of the monument for the Southern Medical Association.

Roses from his Mother's garden, were supplied by Dr. Jethra Hancock, Louisville, and, under the direction of Mrs. J. I. Greenwell, New Haven, State President of the Woman's Auxiliary, these were scattered about the base of the monument by the following County Chairmen and their representatives, of the Auxiliary's Jane Todd Crawford Committees: Mrs. Carl C. Howard, Glasgow; Mrs. Arthur D. Steely, Bardstown; Mrs. Henry Enos Tuley, Mrs. Joshua B. Lukins and Mrs. L. Lyne Smith, Louisville. They also decorated the Ephraim McDowell Monument.

Mrs. C. W. Garrison, Little Rock, Arkansas and Lexington, Kentucky, Chairman of the Southern Medical Auxiliary, placed a wreath at the base of the Crawford monument.

Mrs. Smith Dulin, who now lives at Cambuskenneth, last home of Dr. Ephraim McDowell and Mrs. McDowell, about 2 miles East of Danville, generously supplied, for the platform on which the speakers sat during

the ceremony, baskets of beautiful flowers from the garden planted by Mrs. McDowell when she lived there.

A full account of the Dedication Ceremony will be found in the August issue of the Kentucky Medical Journal.

ANOTHER BIT OF THE STORY OF JANE TODD CRAWFORD

Mrs. A. T. McCormack, Louisville

Recently, it was my good fortune to obtain from Mrs. Elizabeth Yager Bishop and her sister, Miss Jessie Yager, Owensboro, great-great-grand-daughters of Mrs. Elizabeth Lillard Chiles, the following story which adds another fragment to our mosaic of the life of Jane Todd Crawford:

"All my life, beginning as a child at my grandmother's knee," said Mrs. Bishop, "I have thrilled to the story of heroism and useful service of my pioneer great-great-grandmother, Elizabeth Lillard Chiles. A daughter of Captain John Lillard, one of the Culpepper Minute Men, and Suzanna Ball, a cousin of George Washington, Elizabeth Lillard, when a lass of 15, in 1782, came from Virginia with her parents over the Wilderness Road to Harrods Fort, Kentucky.

"Shortly after the arrival in Kentucky, the mother died, leaving a new baby, David, to be reared by Elizabeth, oldest of the 12 children. Elizabeth, like all senior daughters in pioneer families, learned the duties of housekeeping and the art of homemaking through the School of Experience as she also learned, of necessity in a family of 12 children, how to assist in the care of the sick. Eventually, she became so proficient as a nurse and midwife that neighbors, far and near, sent for her in time of need, illness or accident. When quite young, she married John Chiles, Jr., and became the mother of 7 children. The family moved to Danville and lived near Dr. Ephraim McDowell, whose father, Samuel McDowell, had also served in the Revolutionary War. In Kentucky, as in Virginia, the families were friends.

"When Dr. McDowell was about to attempt his surgical experiment of ovariotomy for the relief of the agonizing Jane Todd Crawford, he came to his neighbor, Elizabeth Lillard Chiles, and asked that she assist him in caring for his unfortunate patient. Dr. McDowell knew and trusted Mrs. Chiles. He also knew that when sick and helpless, a woman greatly needs the ministrations and the sympathetic understanding of a useful woman who is capable and generous in giving personal service carefully, tenderly, comfortingly. In Mrs. Chiles, and asked that she assist him in car- qualifications.

"And she, interested in Dr. McDowell's work, quickened with real sympathy for the unusually painful condition of this courageous sufferer from a distant settlement, promptly and cheerfully consented to come to Dr. McDowell's home and assist in the care of the patient. And—so she did, as soon as Dr. McDowell notified her that Mrs. Crawford had arrived on horseback.

"Descendants of Elizabeth Lillard Chiles, among whom is numbered Dr. Theodore J. Yager, Louisville, take justifiable pride in their heritage from one who nobly, modestly, unheralded, added her bit of aid in the Great Experiment. They venerate the memory of this pioneer ancestor who gave necessary, intimate, personal service to needy neighbors in time of stress."

We often wish that we might have Mrs. McDowell's story of this great event for it was to her home, necessarily upsetting all regular routine, that the patient came for this procedure without precedence. In contrast, even today, we homemakers with every convenience would reluctantly open our homes to a surgical operation although surgeons are rich in the experience and equipment purposely produced for ease, skill and comfort in the 125 years elapsed since then.

CRAWFORD MEMORIAL IN TIME

See page 40 in the June 10th issue of Time!

This page was displayed on a large poster board, advertising the magazine Time, at the entrance to the Convention Hall, Atlantic City and drew favorable comment from attending physicians from all over the United States and Canada.

HISTORIAN'S CORNER

Mrs. V. A. Stilley, Benton, Chairman

DR. JOSIAH JOPLIN

Rev. George A. Joplin, Louisville

At the request of Mrs. A. T. McCormack, I am recalling from memory some of the things that were told me by my grandfather over fifty years ago. As the lapse of time has been so long, I may have forgotten some of the things I should have remembered and some of the things I remember may not be exactly accurate, but I am only telling the things told me as I remember them.

It was when my grandfather was a very old man, and after he had become blind, and I was a college student, that I spent several weeks with him and succeeded in getting him to tell me some of the facts about his early life.

He was born and reared near Danville, Virginia, and attended the Jefferson Medical College in Philadelphia. Just before his graduation, one of the professors in the college received a letter from Dr. Ephraim McDowell of Danville, Kentucky, who had become famous be-

cause of the operation he had performed on Jane Todd Crawford, stating that his practice had increased to such an extent that he needed a young man to be associated with him. When the professor read the letter to the class, all the members of the class expressed doubt as to Dr. McDowell having performed such a wonderful operation and none of them seemed willing to go to what then seemed a wild part of the country—Kentucky.

My grandfather said that as he had to locate somewhere, it might be very well to go from Danville, Virginia, to Danville, Kentucky, and he left college for his home with the expectation of going later to Danville, Ky. Several weeks passed and he heard nothing from Dr. McDowell. Then a letter came to him from a friend of his written at Danville, Kentucky, who said that he had just been talking with Dr. McDowell, and the way was open for him to come to Dr. McDowell if he desired to do so. This led to a correspondence and an offer upon the part of Dr. McDowell to Dr. Joplin to come and be associated with him. Dr. Joplin wrote him when he would leave Danville, Virginia on horseback and when he would expect to arrive in Danville, Kentucky. He rode up through Cumberland Gap and reached Mt. Vernon, Kentucky. There he was entertained in a home and saw a very attractive girl named Mary Love. During the night, his horse was either stolen or strayed away, and the next morning, he remarked that "he would not care if the horse should not be found for two weeks, provided he could see Polly Love every day." He was not idle, however, for several people, hearing that a doctor was in town, called on him for medical services.

In about ten days the horse was found, and Dr. Joplin proceeded to Danville and called on Dr. McDowell. Dr. McDowell looked at him and said, "Young man, you have been loitering on the way. You should have been here ten days ago." Dr. Joplin returned the gaze and told him that his horse had been stolen. Dr. McDowell reminded him that it was only a short distance and other horses could have been hired. He told him that he had waited a week for his coming and then had engaged another young doctor just two days before. He regretted very much my grandfather's not arriving on time, but he felt that he was justified in engaging the other man. At first, Dr. Joplin felt rather hurt, but thinking it over, realized that it was his own fault. He also discovered that there was no room in Danville for another doctor.

He was told that Somerset was a thriving town, and needed another doctor, so he rode horseback to Somerset and remained there several days, but all the time he had in his mind a picture of Mary Love and remembered that there were several young men in Mt. Vernon who seemed rather fond of her, also, so he made up his mind the thing for him to do was to go back to Mt. Vernon and see Mary Love again. This he did. He found patients anxious to have him and also found that Mary Love reciprocated his affection, so he married Mary Love and practiced medicine in Mt. Vernon for over fifty years.

An interesting fact was that having lost his opportunity of being associated with the great surgeon, he made up his mind he would make the very best doctor possible. He soon learned to love the people in and surrounding Mt. Vernon and exercised great skill as a surgeon while becoming well-known as a family doctor. He told me he frequently made trips on horseback of forty, fifty, and even sixty miles to see a patient, sometimes riding all night in a pouring rain. Some of the remedies that he used almost seemed to work miracles, especially was this true in handling nervous children. He told me how at one time, some men came to see him from Cincinnati, telling him of the wonderful prescriptions that he had prepared and urged him to have them patented and let them promote them, telling him they would make him a very wealthy man. He told how he

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scorned such an offer, telling them that a man did not become a physician to make money, but that he might save life and relieve suffering, and that the true doctor was willing to share with other doctors any prescriptions that he had that were worthwhile. He also said that he had had offers of coming to some of the larger cities where he was assured of a much larger income, but his reply was that the people in the mountains needed just as good attention from a physician as those in the city, and he wanted to give of his best to the people with whom he lived.

Some years before his death, he became blind and after that could never ride horseback because of vertigo. But frequently his patients would come to see him, telling him that even though he was blind, they would rather have him than any other doctor as he had brought their mothers into the world and had brought them into the world and knew more about them than anybody else. He would feel their pulse, listen to the heart, have them look in a little mirror and tell him the color of their tongue, then he would give them pencil and paper and have them, at his direction, write the prescription to take to their druggist, for by that time a drug store had been opened in Mt. Vernon. During many years of his early life, he not only had to be the doctor, but also the druggist and prepared his medicine in little bottles which he carried in pockets on the back of his saddle.

He had a horse that he had ridden for many years but after he became blind, he could not sit on the horse, as his "head would begin to swim" and he would soon be quite dizzy. He was a tall man and walked with a long cane that reached above his head. The first thing that he did in the morning would be to walk out to the stable to see this old horse. It was an interesting picture to see the horse come running down to the stable bars as soon as she heard him approach, neighing as she came. She would place her head on his shoulder and he would pat her tenderly, saying, "Well, old lady, we have ridden many miles together, but I cannot go with you on a ride again." This little visit was also the last thing that he did at night before supper. The old horse lived only two weeks after my grandfather's death.

After a long and useful life, he died in the log house that he built just outside of Mt. Vernon and where he had lived for over fifty years. He is buried in Mt. Vernon.

THE LITTLE THINGS

Mrs. S. H. Flowers, Worley

There are little things that mean so much!
Just the touch of a precious hand—
Or a smile that is sometimes given
By one who will understand.

Maybe—a simple brown thatched cottage
With curtains a crispy white;
A yard full of old-fashioned flowers
That flaunt their gay colors bright.

Give me a place where love can abide—
Where "little things" are priceless still.
Then, you've given me all that I ask
My soul with contentment to fill.

News From the Counties

BALLARD-CARLISLE

The Ballard-Carlisle Auxiliary held its regular meeting March 1st at the Swain Hotel, Wickliffe, the president, Mrs. E. E. Smith, Bardwell, presiding, with 9 members present. The Constitution and By-Laws, suggested for County Auxiliaries in the March, 1933 issue of the Quarterly, was adopted. The following appointments were made: Mrs. J. F. Hahs, La Center, Chairman of Publicity; Miss Robert, Chairman of the play the Auxiliary is planning to present; Mrs. Ezra Titsworth, Bandana, to communicate with Hazelwood Sanatorium, Louisville, and find out what the Auxiliary may do for the Ballard County patient, a woman, now there for treatment. Dinner was served with the Medical Society. Then the doctors held their regular meeting in the dining room and the Auxiliary members retired to the parlor for their meeting.

The June meeting of the Ballard-Carlisle Auxiliary was held Tuesday, June 4th, at the Victor Hotel, Arlington, the President presiding, with 6 members and two visitors present, one of whom became a new member. Discussion developed the need of some means of caring

(Continued on Page 78)

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MY NEW KENTUCKY HOME

Helen Hutchcraft, Paris

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Kentucky clubs saw a vision and a dream,
And together now work hand in hand.
Better homes is the aim for which we strive,
Less drudgery, more beauty, more play
To give young and old their chance at happiness—
And to bring KENTUCKY HOME'S NEW DAY!
Weep no more my children,
O, dry those tears away.
We will sing one song
Of the Old Kentucky Home,
And, the OLD KENTUCKY HOME'S NEW DAY.

The Sun Shines bright in the NEW KENTUCKY HOME—
The children are happy and gay
The blue grass ripe and the gardens all in bloom,
And the birds make music all the day
The young and old in the NEW KENTUCKY HOME,
Find all that is happy and bright,
Even though hard times come a-knocking at the door,
In MY NEW KENTUCKY HOME—ALL'S RIGHT!
Weep no more my children,
O, weep no more, we say.
We will sing one song
Of the Old Kentucky Home,
And, the OLD KENTUCKY HOME'S NEW DAY.

STATE FEDERATION CONVENTION

Mrs. A. T. McCormack, Louisville

The Annual Convention of the Kentucky State Federation of Women's Clubs was held at the New Century Hotel, Dawson Springs, May 8-10, 1935, with "My New Kentucky Home" as its theme, Mrs. E. H. Heller, Louisville, presiding. Over 200 women from all sections of Kentucky attended and following adjournment, agreed that "this was the best convention yet."

Every minute was filled with interest and the days were all too short to permit attendance at the scheduled meetings (which no one could afford to miss!) and also find time to "talk it out" with friends, old and new, who soon would be back home at another end of the State while we returned to our niche for another year.

One of the highlights of the Convention was the presence of two National Officers at the one time—The President, Mrs. Grace Morrison Poole, Massachusetts, and Dr. Josephine Pierce, Second Vice-President and a candidate for the Presidency. Both were helpful and inspiring in their work and gracious, charming guests, socially.

Mrs. Poole was the principal speaker at the opening session. She chose as her subject, "Stock Taking Time." In brilliant, thought-producing word pictures, Mrs. Poole emphasized the need, the ever-recurring need, of unusual importance at this time, for each of us to face facts, realizing that now, if ever, in these changing times, it is Stock Taking Time. She commended the Kentucky Federation of Women's Clubs on its theme for this Convention, "My New Kentucky Home," and expressed gratification for the annual urge that brings the re-birth of home-making and home-building every Spring, peevish husbands to the contrary, notwithstanding.

Comparing the disturbing element of our times with the title character depicted by Hugh Walpole in his book, "Captain Nicholas," a veritable Personification of Discontent, Mrs. Poole urged that we rid our lives, our homes and our communities of the Captain Nicholas which besets us. Sober thought and weighed consideration will aid us to "Prove All Things; Hold Fast That Which is Good." "Be not blown from one extreme to another, nor yet drift aimlessly with some current trend, but steadfastly steer and pursue a right course." She urged that everyone study **Values.** And—learn to budget Time and Effort as well as money, beginning with the child at home.

"There is no reason in the world," said Mrs. Poole, "why we should accept as axiomatic the fact that graft and inefficiency are bound to go hand in hand with the enlarged spending of public moneys, and we could do no better work for our country than to start now to train young people to have a greater respect for the person and persons who wisely administer their own and other people's money if it comes under their control."

Referring to crime and its control, she said, "Our main objective in a large way is to give our children a safe community in which to be reared with every physical and mental advantage possible. That means an alertness always

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ready to fight forces working against these conditions."

One suggestion in the State President's Annual Report was that each club develop an intelligent interest in legislation, appoint a Legislative Chairman who will study and report proposed legislation to the Club, giving articulate backing for Federation Sponsored Legislation. Auxiliary organizations might profit by this suggestion, working always under the supervision of their own County and State Advisory Councils.

The Federation adopted as The Federation Song, Miss Helen Hutchcraft's song, "My New Kentucky Home," sung to the familiar melody of Stephen Foster's classic, "My Old Kentucky Home." (Published on page 71.)

One new division was added to the Department of Public Welfare, under Miss Louise Morel. It is the Division of Nutrition. Mrs. Robert Fisher, Louisville, was appointed Charman. Mrs. Fisher has done considerable nutrition work among relief families in Pennsylvania, cooperating with the Pennsylvania State Medical and Dental Associations. We may expect to hear more about this new Division, soon.

Sterilization of the Unfit was again presented as necessary for the success of our social welfare program by Dr. A. M. Lyon, Frankfort, and the Federation, again, voted to sponsor legislation for this purpose when the General Assembly meets in 1936.

A demonstration of Talking Books for the Blind was presented by Mrs. W. D. Carrithers, Louisville. This new device promises much for those deprived of sight, who wish to improve their minds. Excellent entertainment is also provided through these books.

The Importance of Periodic Health Examinations in the Cure of Cancer was wisely and interestingly discussed by Dr. Guy Aud, Louisville, whose message was so simple, direct and reassuring that the audience called for an extension of time which was graciously granted. Dr. Aud urged regular periodic physical examination, emphasizing that physicians cannot remedy ailments which they do not know exist and they cannot know that a ailment exists if the patient does not call upon the physician. Any lump, in the breast particularly, or any unusual physical manifestation should be shown to your physician and his advice sought. Cancer, if taken in time, can be cured. But, like tuberculosis, the cancer patient must be seen early and treated properly. The General Federation of Women's Clubs solicits 10c from each member for their Cancer Control Education Fund. (Miss Morel, Kentucky Chairman.)

A Well-Baby Clinic was demonstrated by Dr. Morton, Health Officer, and Miss Nancy Cummings, Public Health Nurse of the Hopkins County Health Department. Mrs. W. L. Purdy, wife of Dr. Purdy, Dawson Springs, played the part of the mother and brought her baby daughter, 10 months, as the baby in the case. This was the first experience of either mother or daughter at a Well-Baby Clinic, yet both performed like trained actresses might be expected to do. The baby cooed and gurgled as the Doctor examined her and cried only when given the diphtheria toxoid and more when her diaper was being pinned on by mother. The latter, it seems, is one of her greatest ordeals in life. She is a lovely baby and helped Dr. Morton and Miss Cummings to show vividly what is meant by the term Well-Baby Clinic in Child Health Work.

Many other excellent features of the Federation Convention merit attention but space does not permit further discussion except to express regret that Judge Fanniebelle Sutherland, Paris, retires from the National Executive Board as Director for Kentucky and to extend congratulations and all good wishes to Mrs. E. H. Heller who takes her place, as she retires from the Presidency after three remarkably successful years in that office and to wish for the new President, Mrs. Paul R. Wickliffe, Greenville, the best administration, yet.

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CHILD HEALTH AND WELFARE

Mrs. Philip F. Barbour, Louisville, Chairman

THE MODERN MATERNAL WELFARE*

Edward Speidal, M. D., F. C. C. S.

Louisville

The amazing progress in the practice of medicine in the last 50 years, can be properly appreciated only by those who have been actively associated with the treatment of disease during all of that time.

Except in surgery, there is perhaps no field in which progress has been more marked than in Obstetrics,—the conduct of maternity cases.

Well could the novelists and poets of that time, picture the women as "passing through the valley of the shadow of death" when giving birth to a child. It must be remembered that even the better class of homes were but poorly equipped for such a purpose and practically all births occurred in the home. With no running water, hot or cold, no bath room facilities, a doctor in attendance, tired out with all his other multiform duties, no trained nurses or special equipment for the event, it is amazing that so many mothers and babies survived the ordeal. The doctor was hurriedly called when the event was in full progress. In most cases, it was his first contact with the patient. No examinations had been made previously, all advice was gotten from neighbors and all kinds of abnormal practices were indulged in to help the mother before the advent of the doctor.

Now, the modern prospective mother consults her physician early. Soon she learns to ignore all of the conflicting and confusing advice so freely offered by other young mothers and interested relatives. An intimate history of her condition acquaints her doctor with sufficient facts so that he can map out the final conduct of the procedure. During the intervening months she is carefully watched: her diet, habits and weight are regulated, so that she may arrive at her ordeal in the very pink of condition.

Deficiences in her system are corrected by proper dietary measures, or the administration of indicated therapy either glandular or chemical. Abnormalities of the ordinary functions of the body are carefully watched and corrected, as these, with the blood pressure and any unusual increase in body weight, serve as warning signals to the doctor and aid him in protecting his patient against one of the most dangerous complications of the later months of this condition. Abnormal cases are assured that surgical intervention will be resorted to, if necessary, and that in the hands of the properly informed and experienced obstetrician a cesarean section is as safe as any major abdominal operation. Lately, there is even a tendency to keep women under observation for six months or more after the birth of the baby to correct any abnormalities that might lead to disability later on in life.

With such protection the modern woman should approach this event without fear; confident that in the care of a skilled physician she will be carried through the condition safely.

All up to date physicians use some form of analgesia, to ease the discomfort of the procedure, so that the harassed and exhausted woman of former years is a thing of the past. It will surprise many to learn that when analgesics were first suggested for the relief of pain in maternity cases, there was a great hue and cry from some religious quarters, that it was contrary to the dictates of the Bible, wherein it was decreed after the fall of Eve, that henceforth women should bring forth their young in pain.

It is said, that the poor and the very rich receive the best medical attention That is true to some extent. Nearly all the large charity hospitals are connected with a medical university and in the maternity departments the patients are attended by members of the staff who are all expert teachers in the university. Other patients however will find that the private hospitals are well prepared to give them adequate care at a cost within the reach of modest incomes. All hospitals now make definite rates for a minimum period, covering all the usual charges for a delivery and after-care. There is even an insurance measure in vogue, whereby for small prearranged payments hospital attention can be secured.

It is the aim of the modern physician not only to adequately care for his patient through the delivery but to restore her to her former condition as fully as possible. In consequence,

*Radio Address, March 14, 1935, WAVE Broadcasting. Auspices, Alumni Association, University of Louisville.

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his dietary and hygienic instructions continue even after the birth of the baby.

With modern sterile dressings and equipment, and a competent doctor and a good nurse in attendance, the event can be taken care of in the private home, almost as well as in a hospital. It is when operative procedures are necessary or an emergency occurs, such as a hemorrhage or an asphyxiated infant that, in the hospital, equipment surpasses the inadequacy of the home. Additional assistance is always necessary in such cases. A great deal of time is lost getting in touch with another doctor and in sterilization and proper preparation for such an operation, or emergency, in the home and, in the meantime, the patient's and the baby's lives are in jeopardy.

The hospital is the best place for such an occurrence, after all. With two lives at stake, ideal surroundings are surely as necessary as for a surgical operation and no major surgical procedure is now attempted in the home except in an extreme emergency.

Those who saw the two movie pictures "The White Parade" with Loretta Young and "Men In White" with Clark Gable, should now be fairly familiar with the wonderful equipment and the method of procedure in some of our modern hospitals especially in the surgical departments. The obstetrical floors are just as elaborate with the perfectly equipped delivery and sterilizing rooms and the nursery all isolated from the rest of the floor.

In the delivery rooms the patients are attended by doctors in clean white suits and caps, the nose and mouth covered with a mask. Then a sterile gown and thoroughly scrubbed hands encased in sterile rubber gloves complete the equipment. The nurses in attendance are similarly gowned and gloved. The patient and all necessary paraphernalia are covered with sterile dressings. Everything is done to protect the patient against the possibility of infection.

The delivery rooms are ready for all emergencies, so that there need be no anxiety on that account.

A mixture of Oxygen and Carbonic Acid gas in a tank with suitable inhalation attachment is always ready to institute respiration in a baby that is not breathing at birth, and very effectively supersedes the rather crude methods of slapping and hot and cold water dipping and mouth to mouth breathing that had to be resorted to formerly, especially in the homes.

A mix-up of babies should be an extremely rare occurrence, as a foot print of the baby and a thumb print of the mother are placed upon a chart before the baby is taken to the nursery. In addition, in most private hospitals a necklace of tiled lettered beads, spelling the name of the parent is placed around the baby's neck in the presence of the doctor.

In addition to all the precautions taken during the delivery, the doctors in their daily visits wear a clean gown and wash their hands before entering the nursery, to protect the babies from possible infection.

It is very discouraging, then, that with all of these precautions on the part of the hospitals, the doctors and the nurses, that the family and friends of our patients almost nullify all the efforts that are thus made to reduce maternal and infant mortality and to prevent infection.

At the present time our hospitals are overrun with visitors from the very first day. It is not unusual to find five or six girl friends visiting in the young mother's room only 24 hours after the birth of the baby.

In olden days it was a well established custom, that it was improper to visit a mother until the tenth day after the birth of the baby in order to prevent any possibility of fever. Visitors in maternity cases should be restricted as far as possible to the husband and the girl's mother during the first week. Thereafter if all

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has gone well, the friends may be admitted one or two a day. The birth of a baby is an ordeal, even in the simplest cases and it requires not only physical but also mental rest so that the patient may regain her previous condition of well being and the two weeks stay in the hospital is intended especially to provide such rest. Even then, four weeks in addition are required before absolute return to normal has occurred in even the simplest cases.

The after care of the baby has been simplified to such an extent that it should not greatly interfere with the household and social duties of the mother. With the knowledge that the death rate is much greater among artificially fed babies than among nurslings and that the latter are thereby rendered more or less immune to whatever communicable diseases the mother had during her lifetime, should be sufficient inducement to urge every woman to nurse her baby. In addition the nursing is an aid in restoring the mother's organs to their normal condition.

And now, a kindly word for the young women of the present day. They have been called flappers and are said to be frivolous, thoughtless and shirking responsibility. When they marry they at once rise to the importance of their new dignity. They are curious and eager to have a baby, and at the proper time put themselves in charge of their physician. They frankly admit their ignorance of the coming condition and accordingly obey their doctor's orders implicitly, even abiding cheerfully by his necessary restrictions. During the ordeal, they are unusually brave and uncomplaining and afterwards make the very best of mothers, as witness the husky youngsters growing up all around us. We have every reason to be proud of our present generation of mothers and their splendidly developed babies.

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CANCER CONTROL

CUTTING CANCER*

About six hundred years ago Guy de Chauliac believed in radical surgery for cancer. For the majority of cases in our present day knowledge this practice still holds good. Interestingly enough, he employed actual cautery for the fungous varieties. He must have been a remarkably smart fellow.

Guy de Chauliac was just a country boy from Auvergne. He finally became a great authority on surgery in the fourteenth century. To pursue his studies in medicine more easily he took holy orders. He then got an excellent medical education in the typical fashion of the Middle Ages—a bit here, and a little more elsewhere, just as did the traveling minstrels of his time. Toulouse, Montpellier, and Paris contributed to his learning, and he picked up a lot of anatomy in Bologna. He was considered the most erudite surgeon of his day.



GUY DE CHAULIAC

He wrote the most important records of medical progress in his period. His writing was clear, logical and most direct. He had clear cut ideas based on realities. He did his own thinking. His description of Medieval narcotics and soporific inhalations used as anesthesia is most interesting even today.

Guy de Chauliac left a tremendous mark on the medical history of the time between Celsus and Champier. In addition to the work that he did on cancer, he perfected many operative procedures, most of them based on common sense methods which basically have been in use up to the present time. Fractures he would suspend in sling bandages and in instances employed the use of the weight and pulley. In dentistry as well as medicine he threw a great light upon the operative procedures of his time.

While de Chauliac was considered progressive in surgery, it is thought by some that his reactionary views on the treatment of wounds set back the progress of surgery by some centuries. He felt that the healing of a wound could not take place without the surgical interference of salves, plasters and other concoctions. He did not have faith in nature as far as this job was concerned. Nevertheless, he was considered sincere and an excellent teacher of surgery.

During the plague epidemics at Avignon from 1348 to 1360 he was earnest in his labors in treating the sick. During this period most of the other physicians found it expedient to go elsewhere.

He left behind him some famous books, among them **Inventarium et Collectorium,** written in 1363, which went through many editions. For many years this book in its abridged form was used as a guide to surgical practice.

He finally became personal physician to three Popes, and died in 1368.

*Reprinted with permission from *Medical Record,* January 17, 1934, issue.

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Tuberculosis

Mrs. Lucius Ernest Smith, Louisville, State Chairman

The Chairman's Message

No one would expect a broken arm to heal if it were constantly being used. Every one knows a broken bone must be firmly held in position that healing may be made possible. The splinting of a broken bone is only a way of forcing rest. Then nature is able to carry on the healing processes without interruption.

We know this is necessary for a broken bone, but most people fail to apply the same basic fact to the cure of Tuberculosis. Yet it is just as impossible to cure Tuberculosis without rest as it is a broken bone.

If the value of rest in treating disease were thoroughly understood and appreciated, many illnesses would be prevented, others shortened, and many serious complications would be avoided.

The importance of education in preventing and controlling diseases is being recognized more and more each year. Knowledge prepares our people to avoid and resist diseases.

Tuberculosis is one of our outstanding diseases and its control is, perhaps, our leading public health program. Education is very essential for the solution of this problem.

The Kentucky Tuberculosis Association, in cooperation with the State Department of Health, has been conducting a far reaching educational program in Kentucky. Their agencies are active throughout the year. The work is done through schools, clubs, churches and other interested groups. They use literature, lectures, slides, movies and posters. Their valuable service is limited only by their funds, and their only present support is derived from the sale of Christmas Seals. Donations and endowments would make possible a much enlarged, greatly needed service.

We can assist this organization in many ways, and we owe them every service we are able to give for they are really fighting our battle against Tuberculosis. In fighting Tuberculosis, they are also helping in the fight against other diseases.

Our organization can render a great service to them and to our local groups in connection with this Seal sale campaign. We are in position to influence the best people in our communities to take active part in this life saving program.

Please begin to think about this now. Ask your local Seal sale chairman what you can do to help her make a better Seal sale this year. Assure her of your interest in the program and do all you can to interest others.

Talk this over with community leaders and tell them the death rate from Tuberculosis in Kentucky is among the highest in the United States and ask them to join with you and your local group to help make our State a safer place for our children to live.

Koch discovered the cause of the disease 53 years ago and told us how to control its spread from the sick to the well. Trudeau proved the value of rest in the treatment of Tuberculosis 50 years ago. But it yet remains "Public Enemy No. 1," because we have not found a way, intelligently, to apply the knowledge we now have. Let us dedicate ourselves to the task of organizing our people against this enemy of children and wrecker of homes—most precious to the hearts of Kentucky mothers.

Truly there is nothing more worthwhile than helping protect our homes from Tuberculosis.

"TB-LETS"

The arithmetic of Tuberculosis is a weird thing. In one Kentucky home it took one mother from four children and there remained desolation.

Give a thought to health as you vote this fall. It is expensive and depressing to have a lot of sick people around. Vote for commissioners who believe that good health demands reasonable expense for public health nurses and doctors.

Tuberculosis can be controlled anywhere, when all active cases are found and isolated.

People who weather an attack of tuberculosis in youth live happily to advanced age if they learn that tuberculosis will not tolerate strain. All through life they must avoid over work, overplay and all excesses.

For puny children try cod-liver oil. Have them play in the sun in winter as well as summer. Ask your doctor to plan the wise course.

Fresh air waits outside every closed window. The most indispensable of all health tonics! Open up, please!

If you only knew how many of your alert friends and fellow-citizens of middle age had tuberculosis in early life, you would understand why doctors insist that the disease can be cured.

FROM THE NATIONAL NEWS LETTER

(Continued From Page 66)

tists, osteopaths, and chiropractors; Clinics public and private; food handlers; eugenics; anti-vivisection; mother welfare; security for the child.

The Woman's Auxiliary to the Iowa State Medical Society is sponsoring its second annual health essay contest in the public high schools of the state. The contest last year aroused so much interest that it was decided to conduct a second. This idea of an essay contest seems a sure way of making the youth of today conscious of the importance of health, and further urges on them the necessity for safeguarding this most precious of possessions. The subject chosen for the present contest is "Disease Prevention and Health Protection." The first prize is to be $25.00, the second $10.00, the third $5.00, and there will be twenty prizes of $1.00 each for the next twenty highest ranking essays. The Speakers' Bureau is cooperating in this matter and has promised the winner of the first prize an opportunity to broadcast his essay over the radio.

The Jefferson County (Louisiana) Auxiliary offered a prize to the pupil in the sixth and seventh grades writing the best essay on a health topic. The contestants were requested to use HYGEIA in gathering their material and were given a choice of one of the following subjects: "The Prevention of Tuberculosis," "The Prevention of Communicable and Contagious Diseases," and "Teeth." The winner of the contest read her essay on "Teeth" at the meeting of the Auxiliary and it was later published in the local paper.

Wayne County (Michigan) Auxiliary sponsored an exhibit of Arts and Crafts in April. Members of the Wayne County Medical Society and their families were asked to place an exhibit at the club rooms of the society, the products of any hobby that comes under the category of Arts and Crafts—such as pottery, photography, sculpture, etchings and drawings, paintings in oils and water colors. One room was devoted to the drawings and paintings done by the children of doctors. The exhibit, which opened with a tea on April 12th, lasted for a week.

Wayne County Auxiliary has some very interesting study classes. The subjects of the lectures given in these courses follow:

1. Review of the Period from Imhotep to Harvey.
2. Rise of the Universities.
3. Harvey and the 17th Century.
4. Modern Medicine (18th and 19th Century.)
5. Contemporary Medicine.

The lectures are given by the doctors before the classes which met for five consecutive Monday evenings.

News From the Counties

(Continued From Page 70)

for tuberculosis patients in the County and a motion carried that an attempt be made to raise money to build at least one tuberculosis cabin. Mrs. W. A. Page gave an interesting paper on the Influence of a Good Home and Mrs. Ezra Titsworth read an excellent paper on Pioneer Women. The next meeting will be held in Columbus early in September.

Dr. A. T. McCormack and Mrs. McCormack, Louisville, made a flying trip to Wickliffe on May 14th and visited the Ancient Buried City, an unusual find of Mr. Fain King, Paducah, who is unearthing this remarkable record of earlier peoples that lived in Kentucky long before the American Indians. Here is an opportunity to peer into a bit of the remote past

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without the necessity and the expense of a long ocean voyage, followed by a land trek into Egypt, or other of the Oriental countries.

CAMPBELL-KENTON

On March 21st a meeting of the Woman's Auxiliary to the Campbell-Kenton County Medical Society was held at Speers Hospital, Dayton, when the election of these new officers took place: President—Mrs. John Todd; First Vice-President—Mrs. J. Asher Caldwell; Second Vice-President—Mrs. H. C. White; Secretary—Mrs. Luther Bach; Treasurer—Mrs. C. W. Shaw.

Following the business meeting, the members of the Auxiliary, with the Doctors and the Nurses of Speers Hospital enjoyed a program given by the members of the 620 Woman's Club of the Baker Hunt Foundation.

PROGRAM

Quartet—Misses Elaine Welling, Irma Leers, Theo. Seifert and Pauline Haley:
- When Irish Eyes Are Smiling
- Santa Lucia
- Sweet Kentucky Babe
- Accompanist, Miss Alice Powers.

Readings—Miss Dorothy Stafford:
- The Reading Lesson
- The Colored Wedin'

Piano Solo—Miss Helen Mae Rudolph:
- Country Garden, by Grainger
- The Nightingale, by Leighten

Sketch—Goin' Abroad

Misses Peggy O'Neill, Mary Elizabeth Purdy, Edith Willis, and Katherine Rowlette.

Violin Solo—Miss Mary Katherine Haley

Accompanist, Miss Georgia Haley.
- Amaryns, by Ghys
- Sylvia, by Speaks

Quartet—Misses Elaine Welling, Irma Leers, Theo. Seifert and Pauline Haley:
- I'll Take You Home Again, Kathleen
- Sweet and Low
- Can't You Hear Me Callin' Caroline

Following this program the members of the Auxiliary served refreshments of hot chocolate and cake.

On April 4th the Annual Banquet of the Auxiliary was held at the Highland Country Club, Fort Thomas, at which time, installation of officers took place, after which an address was given by Miss Helen Mills, head of the Kenton County Relief Administration.

An attractive bowl of jonquils centered the table and was guarded on either side by tall yellow tapers. Covers were laid for the following: Mrs. John Todd, Mrs. Chas. Baron, Mrs. H. C. White, Mrs. C. W. Shaw, Mrs. Luther Bach, Mrs. B. K. Menefee, Mrs. N. A. Jett, Mrs. J. Asher Caldwell, Mrs. C. A. Menefee, Miss Pauline C. Haley, Miss Helen Mills, guest speaker, and Dr. B. K. Menefee, guest of honor.

On April 11th, Mrs. B. K. Menefee gave a talk before the Covington Woman's Club on "High Spots in the Practice of Medicine in the last 50 Years."

On May 13th, Miss Pauline C. Haley gave a talk on "Jane Todd Crawford" before the Dayton Monday Club at the home of Mrs. Luther Bach.

On May 1st Miss Pauline C. Haley was re-elected President of the 620 Woman's Club of the Baker Hunt Foundation and installed into office on June 5th.

Our sympathy is extended to Mrs. N. A. Jett in the loss of her father, Mr. John W. Gaskins, which occurred on February 27th at his home in Madisonville, Ohio. and to Mrs B. K. Menefee in the loss of her husband, Dr. B. K. Menefee, which occurred at his home on May 20th.

The final meeting of the year of the Auxiliary was held Thursday evening, June 6th at St. Elizabeth's Hospital, Covington, at which time Mrs. John Todd, the newly elected President, appointed the following committee chairmen:

Parliamentarian— Mrs. B. K. Menefee.
Program—Mrs. Chas. Baron.
Social—Mrs. H. C. White.
Publicity—Miss Pauline C. Haley.



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Membership—Mrs. Stuart G. Biltz.
Historian—Mrs. N. A. Jett.
Hygeia—Mrs. Luther Bach.
Jane Todd Crawford—Mrs. J. Hadley Caldwell.
Tuberculosis—Mrs. C. A. Menefee.

GRAVES

Mrs. H. H. Hunt, Mayfield, and daughter, Miss Jincy, have returned from a recent motor trip to Charleston, S. C., where they enjoyed the beauty and the romantic history of the old town, bringing home such vivid word-pictures of the old Magnolia Gardens that one almost catches the fragrance of the perfume of the exquisite spring flowers they found there. These gardens were first planted in 1756 and have since been a constant source of joy to succeeding generations of flower lovers.

Dr. H. V. Usher and Mrs. Usher, Sedalia, have been enjoying an extended trip to California, and are expected home soon.

Mrs. George T. Fuller, Mayfield, and friends, attended the afternoon session of the Annual Convention of the Kentucky State Federation of Women's Clubs held at Dawson Springs, May 10th. They also remained for the Tea given later by the Dawson Springs Woman's Club in the parlor of the New Century Hotel.

A delightful garden party was held at the home of Dr. H. H. Hunt and Mrs. Hunt, South Third Street, Mayfield, on Monday, May 13th, when physicians and their wives from all sections of the "Pennyrile" together with Dr. Granville Hanes, Dr. and Mrs. A. T. McCormack, Louisville, were graciously entertained in the charming home and throughout the spacious grounds. The Peony Garden was in glorious bloom—pink, white and red—presenting a flower show of extraordinary beauty, the joy and pride of Dr. Hunt who seemed to know each petal and leaf of every plant he had nurtured so tenderly. Impromptu speeches by several of the guests and selections played on the piano-accordian by Elumus Beale, followed delicious refreshments served under the trees on the front lawn.

HARDIN

The Woman's Auxiliary to the Hardin County Medical Society was re-organized, with 9 members, at Elizabethtown by Mrs. J. I. Greenwell, Mrs. W. E. Fallis and Mrs. A. D. Steely, on Friday, April 12th, with the following officers elected to serve for the first year. President—Mrs. R. T. Layman, Elizabethtown; Vice-President—Mrs. S. P. Bale; Secretary—Mrs. C. F. Long, Elizabethtown; Treasurer—Miss Eliza Lancaster.

This Auxiliary is interested in sewing for The Frontier Nursing Service, Inc., and for Hazelwood Sanitorium. We expect much progress from this fine group and hope to have many news items for future issues of the Woman's Auxiliary Section.

HARLAN

Our apology to Harlan for a bad typographical error on page 34, January issue. In Mrs. J. W. Nolan's Address of Welcome to the State Annual Meeting, October 2nd, she said: "In 1926, the concrete road to Pineville was completed, at last, linking us with the outside world over a good highway." Published it was "Pikeville." All wrong! Miles wrong! Excuse us, please.

Mrs. Joseph W. Nolan, Harlan, attended the Methodist Women's Missionary Society's Annual Meeting held in Louisville, April 8-10. She also had a conference with Mrs. J. I. Greenwell, New Haven, on May 10th, in preparation for the Annual Meeting of Woman's Auxiliary to the Kentucky State Medical Association, to be held September 30th-October 3rd, in Louisville.

JEFFERSON

To gladden the homes of three Auxiliary members, new additions to the family have arrived within the last few weeks. On April 13th, came William Joseph Martin, III, son of Dr. William J. Martin, Jr., and Mrs. Martin, tipping the scales at 7 pounds, 6 3-4 ounces. On May 15th, came Peter Garity Kinsman, son of Dr. J. Murray Kinsman and Mrs. Kinsman. Both young men arrived at the Norton Memorial Infirmary. Then, on June 1st, at St. Joseph's Infirmary, a daughter, Johanna Bertha, to be called Joan, was born to Dr. J. Duffy Hancock and Mrs. Hancock. Mrs. Hancock served as President of the Jefferson County Auxiliary during the year 1933-34. Congratulations! And—may this **first summer** be a happy, healthy growing season!

The Study Class of the Jefferson County Medical Auxiliary met on Monday, March 10th in the "Derby Room" at the Brown Hotel.

Termites—Rats—Roaches—Moth Eradicated the Modern Way By
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An original and interesting paper on "Dr. Charles W. Stiles and the Regeneration of the Poor White Trash" was ably given by Miss Grace Stroud. Mrs. George A. Hendon reviewed "The Human Mind," by Dr. Carl A. Menningers.

At the meeting of the Study Group on April 1st a paper on "Women in Medicine" was read by Mrs. Arch Herzer, followed by one on "Doctors in the Arts," given by Mrs. Wm. Edgar Fallis, both of which proved very interesting to all present.

Current events were discussed by Mrs. O. H. Kelsall.

The Sewing Unit met on Tuesday, April 9th, with Mrs. George C. Leachman at her beautiful home on Casselberry Road. Twenty-two members spent the better part of the day fashioning into garments the material provided through our capable leader, Mrs. J. Parks Ogden. At noon, all were invited into the spacious dining room where a beautifully appointed table was laden with sandwiches, salads. etc.

Miss Margaret Leachman, an attractive bride-to-be, presided at the coffee urn.

On Tuesday, May 14th, the Sewing Group met at the home of Mrs. Edgar W. Stokes on Cherokee Road, twenty-four members present.

An enjoyable and profitable day was spent after which the needles and thread were put away until the first meeting in the Fall. A total of 639 articles have been made this year.

The annual picnic of the Sewing Unit will be held on Tuesday, June 11th, at the country home of our new president, Mrs. S. C. McCoy.

This is a yearly affair made possible by the gracious hospitality of Dr. and Mrs. S. C. McCoy.

On Monday, June 3rd, our annual luncheon at which the following new officers were installed, was held in the Roof Garden at the Brown Hotel: Mrs. S. C. McCoy, President; Mrs. J. Paul Keith, 1st Vice-President; Mrs. R. C. Adams, 2nd Vice-President; Mrs. E. H. Koch, 3rd Vice-President; and Mrs. H. R. Leavell, 4th Vice-President; Mrs. L. W. Neblett, Secretary; Mrs. W. I. Hume, Treasurer, and Mrs. M. C. Baker, Parliamentarian.

A delicious luncheon with decorations of spring flowers was arranged by the committee, composed of Mrs. J. W. Fitzpatrick and Mrs. Charles H. Moore.

A Board Meeting and Business Meeting in the Derby Room preceded the luncheon, which concluded the business and activities in our Auxiliary until September.

A Bridge Party was given in the Roof Garden at the Brown Hotel on Friday, May 31st, for the benefit of the "Camp Taylor Health School." Miss Viola Fitzpatrick, chairman, assisted by Mrs. M. H. Mathewsian, Co-Chairman, Mrs. Charles H. Moore, Mrs. F. Parks Ogden, Miss Grace Stroud, and Mrs. O. P. Miller, worked untiringly to make this affair a financial success. Five beautiful door prizes and a prize for each table were donated by merchants of our city, to whom we extend our thanks. A few remaining articles will be disposed of after which a complete report will be made.

Again the committee thanks all the members and friends who so generously contributed to help this worthy cause.

The first tournament of the "Falls City Golf Club" was held on Tuesday, April 23rd, at Audubon Country Club. The following members of the Auxiliary participated. Mrs. L. Lyne Smith, Mrs. W. Stewart Carter, Mrs. J. B. Lukins, Mrs. J. P. Boulware, and Miss Viola Fitzpatrick.

The Auxiliary was also represented by its

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"Golf Unit" at the meetings on May 7th at "Big Springs Golf Club" and on Tuesday, May 28th at the "Shawnee" course.

The next tournament will take place on Tuesday, June 18th, at the "New Albany Country Club." A full attendance is anticipated.

Mrs. George C. Leachman has returned to her home on Casselberry Road after a stay of several weeks at St. Joseph's Infirmary, where she underwent an operation. All join in the hope for a complete and speedy recovery.

Miss Margaret Leachman, daughter of Dr. and Mrs. George C. Leachman, and Mr. James F. Sullivan were united in marriage on Friday, May 3rd, at 9:30 a. m. at St. Meinrad's Abbey in Indiana. Fr. Walter Sullivan, brother of the bridegroom, performed the ceremony. Best wishes go to this young couple from our members.

A beautiful home wedding occurred at eight o'clock on Saturday evening, June 1st when Clara Mae Hartmetz and Dr. Philip Earle Blackerby, Jr., were united in marriage by Rev. Henry L. Durrant, Rector of St. Paul's Episcopal Church at the home of the bride's parents, Mr. and Mrs. K. C. Hartmetz, 619 South 41st Street. Dr. Blackerby and Mrs. Blackerby left on the late evening train for Chicago where Dr. Blackerby is studying at the University.

Paul S. Emrich received his M. D. Degree and Virginia Emrich her A. B. degree at the University of Louisville on June 4th. Dr. Paul will interne at St. Anthony's Hospital, Louisville.

MARSHALL

The Marshall County Auxiliary secured a new member, Mrs. J. W. Neal, Birmingham, at its meeting in Benton, May 24th, the first regular meeting since September as several of the members have been ill during most of the winter. Congratulations! We are glad you are well, again.

Mrs. W. T. Little, Calvert City, County Secretary-Treasurer and State Recording Secretary, has returned to her home greatly improved following several months stay at Hazelwoods Sanatorium, Louisville.

Marshall County's "Big Singin'" brought Mrs. V. A. Stilley, Benton, out into the sunshine on her front porch, after a long period of illness, on Sunday, May 26th.

In Benton, the fourth Sunday in May has been devoted to Old Southern Harmony Singing since 1884 when Mr. J. R. Lemon inaugurated the event for the purpose of keeping alive the old songs of our pioneer ancestors and for the mutual enjoyment of Marshall Countians in a get-together day of renewing acquaintances after a winter, of isolation for many, because of the bad muddy roads which had kept them at home. Now, the roads are greatly improved and automobiles make traveling easy and comfortable. This year, folks gathered from all over the County and from several different States, automobiles showing licenses from Arkansas, Indiana, Illinois, Michigan, Missouri, Ohio and Tennessee as well as from numerous Counties in Kentucky.

This year the 50 "official" singers, among them Mr. G. W. Lemon, brother of the founder, Mr. J. R. Lemon, assembled as usual, in the Marshall County Circuit Court Room at 10 o'clock, Sunday morning, and began their program for an all-day sing. Soon, the Court House and the entire Square were filled with people. At noon, there was a recess for luncheon, a basket picnic luncheon, and old friends visited, chatting of other "Big Sings" and of other friends, some of whom have passed on, and new friends met. But, the singers returned at one o'clock and continued their harmonizing until 3 o'clock. Those who have been trained to participate in the singing were of varied ages, ranging from "youngsters" of 35 to veterans of 85 years. And—everybody sings, following the lead of these "officials."

NELSON

The regular May meeting, held Tuesday, May 14, at the Old Kentucky Home Hotel, Bardstown, was designated Guest Day and all eligible women in the County, not already members of the Nelson County Auxiliary, were invited. An interesting and instructive paper on "Hippocrates" was ably presented by Mrs. William J. Roby. The aims and functions of the Auxiliary were defined and an invitation extended for the guests to join and become active members.

Dr. A. D. Steely, Mrs. Steely and son have returned from a motor trip to Florida.

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Dr. J. I. Greenwell and Mrs. Greenwell are planning to attend the Annual Convention of the American Medical Association in Atlantic City, June 10-14.

PERRY

The Perry County Auxiliary re-elected Mrs. H. W. Gingles, Hardburly, as President, and held the first meeting of the new year at the home of Mrs. S. B. Snyder, Hazard, a former President, on Friday, May 10th. During the Business Session, the following Committees were named: Child Welfare, Mrs. P. L. Johnson; Devotional, Mrs. R. L. Goad; Hygeia, Mrs. J. P. Boggs and Mrs. E. G. Skaggs; Public Relations, Mrs. D. C. Combs; Publicity, Mrs. S. B. Snyder; Tuberculosis, Mrs. O. L. Collins and Mrs. C. M. Anderson; Ways and Means, Mrs. C. D. Snyder and Mrs. George Boulous. Announcement was made that Mrs. F. F. Shelton, one of our members, will describe "The Passion Play" as she saw it at Oberammagau during the summer of 1934, before an audience at the Presbyterian church on June 3rd. Delicious refreshments were served and a social hour enjoyed.

PULASKI

The Woman's Auxiliary to the Pulaski County Medical Society was organized in March with 5 paid-up members and the following officers elected to serve during the current year: President—Mrs. R. C. Scrivers; Vice-President, Mrs. J. C. McGuire (removed to Mississippi); Secretary—Mrs. Carl Norfleet; Treasurer—Mrs. E. M. Ewers.

News items from this new organization will, we believe, put other County Organizations on their mettle! We are glad to welcome this County Auxiliary whose Program Chairman, Mrs. M. C. Spradlin, wrote asking for help immediately after organization. We hope the material sent served a useful purpose and that we will have much to report in the next issue of the Woman's Auxiliary Section.

SAMSON COMMUNITY HOSPITAL

The first year's work of the Samson Community Hospital Auxiliary has been completed and the second year begun with an encouraging outlook and an increase in membership. Four new members were enrolled at the last meeting, June 4th, bringing the total membership to 23.

Mrs. E. A. Barnes, Albany, our untiring President, was re-elected unanimously at the Annual meeting, May 1st. Other officers elected are: Mrs. C. C. Howard, Glasgow, First Vice-President; Mrs. C. G. Depp, Hiseville, Second Vice-President; Mrs. C. C. Turner, Glasgow, Secretary-Treasurer. Both Mrs. Howard and Mrs. Turner were reelected, having served last year with Mrs. Barnes. The following Committee Chairmen were appointed: Archives, Mrs. W. A. Weldon, Glasgow; Child Health and Welfare, Mrs. Paul York, Glasgow; Doctor's Shop, Mrs. C. G. Depp, Hiseville; Historical Collections, Mrs. J. W. York, Canmer; Publicity, Mrs. C. M. Moore, Glasgow.

Our box filled with useful articles to help supply the needs of patients at Hazelwood has been sent.

The essays on the Jane Todd Crawford Trail have been submitted and judged, John Burchette, Clinton County, winning first honors. More definite report will be made at the Annual Meeting of the State Auxiliary in Louisville, September 30-October 3rd.

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PROCEEDINGS OF THE TWELFTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT HARLAN, KENTUCKY, OCTOBER 1-4, 1934

(Continued From April Issue)

REPORT OF PUBLIC INSTRUCTION COMMITTEE

My report is principally a list of recommended study available to the Auxiliary members and, through them, to other women whom they wish to give the information.

Mrs. Arthur B. McGlothlan, National Chairman for the Woman's Auxiliary of the American Medical Auxiliary, has given to the State Educational Chairman a list and a copy of the study envelopes, leaflets, and booklets that are available for health programs of our Auxiliary, or for programs of any other organizations interested in public health.

Will you please help to get this information, these facts and these blessings to the public? You may secure them by writing me up to October 1. After the State meeting at Harlan, on October 1-5 you should write the newly appointed chairman of Public Relations (Mrs. C. A. Menefee, Covington.) The list of publications available follows:

Auxiliary Study Envelopes

No. 2—The Most Common Defects in Children and what is being done to correct them.

No. 3—The County Health Unit.

No. 4.—Communicable diseases: Typhoid fever, Diphtheria, Small Pox.

No. 5.—Communicable diseases: Measles, Whooping cough.

No. 6—Milk.

No. 7—Prevention of blindness.

For the following material write to Dr. W. W. Bauer, Bureau of Public Instruction, A. M. A., 535 N. Dearborn St., Chicago, Ill.

American Medical Association Literature:

A. A Series of Five Pamphlets on Sex—by T. B. Rice, M. D.
 1. The Story of Life. For 10 year old boys and girls.
 2. In Training. For high school boys.
 3. How Life Goes On and On. For high school girls.
 4. The Age of Romance.
 5. The Venereal Diseases.

B. A Child is to be born.

C. Keeping Your Baby Well.

D. Three pamphlets on Tuberculosis.

E. Children Who Might Live. (On immunization against diphtheria.)

F. Vaccination.

G. The Dog's Gift to the Relief of Suffering.

H. A Question of Fact.

Clippings Available for Borrowing

The A. M. A. Bureau of Health and Public Instruction has seventy collections of clippings on various subjects which may be borrowed and may be kept ten days. Return postage is the only expense.

A. M. A. Radio Programs

Watch the Journal A. M. A. for announcements concerning these programs and listen in.

You may secure from the A. M. A. prepared radio talks. Write Dr. Bauer concerning this.

Keep well informed regarding the activities of your State and National Auxiliaries.

Write your State President for proceedings of the Cleveland National Convention. She will also furnish you, for 15c, with "The First Twelve Years," a chronicle of the Auxiliary recently compiled by Mrs. Willard Bartlett, National Historian for 1933-34.

Hygeia—Do not fail to read and distribute.

Our Own Publication—Do not fail to read this. The Woman's Auxiliary Section of the Kentucky Medical Journal edited by Mrs. A. T. McCormack, Louisville, is full of interesting and educational material. You will be a much better informed wife of a doctor if you read it and use it in your County Auxiliary Meetings.

Respectfully submitted,

(Mrs. E. B.) Jessie Crawford Houston

REPORT OF HISTORICAL COLLECTIONS

The work of sorting and filing our collections into two separate lots, one—pertaining to physicians for the State Medical Association, the other—concerning our own organization activities for the Auxiliary Archives, has been a pleasant task. I wish to thank our President for appointing me as your Chairman of Historical Collections for I have enjoyed the assign-

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ment. And—I have learned a lot. I will read you my listings.

The material pertaining to physicians I have passed over to the Secretary of the Kentucky State Medical Association. These Auxiliary treasures I will give to our Chairman of Archives for safe keeping.

Medical Historical Data Secured

Early Physicians—Biographical Sketches and Other Data.

Nelson County—Six Biographies.

Three rare old prints. By Mrs. J. I. Greenwell.

Ballard, Carlisle, Hickman—Seventeen Biographies. By Mrs. E. E. Smith.

Jefferson County — Twenty-nine Biographies (will be filed soon).

Barren County—One Biography. By Mrs. R. J. Hansel.

Marshall County—Fourteen Biographies, One Relic, first trepanning set brought to Calloway County, by Dr. R. S. Coleman in 1872. (Transferred to Doctor's Shop.)

Picture folder "Father and Son" of Dr. R. S. and his son Dr. J. R. Coleman. Published by the Southwestern Medical Association in their memory.

Newspaper pictures showing the first appendectomy done in the Purchase.

Booklet—Surgeon of the Wilderness, by Dr. William D. Haggard, Nashville.

Newspaper clipping "Dr. Ephraim McDowell" by W. O. McIntyre, Danville.

McDowell Day Program of the Southern Medical Association, Frankfort, Ky.

Program of the dedication of the McDowell statue.

Auxiliary Data

Memorial Number of Kentucky State Medical Journal for Dr. J. N. McCormack.

Dinner Program at Pendennis Club for Southern Medical Auxiliary.

Program of Seventy-ninth Annual Meeting of Kentucky State Medical Association—Brown Hotel, Louisville.

Program of Seventy-eighth Annual Meeting of Kentucky State Medical Association—Eastern State Normal, Richmond.

Program of Seventy-third Annual Meeting of Kentucky State Medical Association, Crab Orchard — September 17th-20th, 1933. Woman's Auxiliary organized at this meeting.—Dr. Stilley's notes of organization on back.

Program Kentucky State Medical Association, Brown Hotel, October 5-8, 1925.

Program Kentucky State Medical Association, Capitol Hotel, Frankfort, September 20-23, 1926.

Kentucky Medical Journals from date of first

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Auxiliary notes to time of issuing the Quarterly.

Bulletin of Woman's Auxiliary to Southern Medical Association, New Orleans, 1928-1929.

Program of Woman's Auxiliary, Southern Medical Association, Louisville, 1930.

Program of the Seventy-seventh Annual Meeting Kentucky State Medical Association, Owensboro.

Program of Eighty-first Annual Meeting of Kentucky State Medical Association, University of Kentucky, Lexington.

Program of Fourth Annual Meeting of Woman's Auxiliary to Kentucky State Medical Association October 3-6, 1927, Owensboro.

Primer for Woman's Auxiliary to Medical Association of N. J.

Directory of Officers of County Auxiliaries from 1924-1927.

First letter sent to the 120 Counties, 1925.

First and second letters sent out by Organization Chairman, Mrs. R. L. Woodard, and Secretary, Mrs. A. T. McCormack, 1925.

Presidential Address of Mrs. F. P. Gengenbach, President of Woman's Auxiliary to American Medical Association—delivered in Washington City.

Auxiliary Badge.

News Paper Item, "Crawford Trail Organized," with list of officers.

Picture of Mrs. A. T. McCormack, President of Woman's Auxiliary to Kentucky State Medical Association, 1932-1933.

Outline of letter sent to the Councilors, 1927.

Bulletin Woman's Auxiliary to Southern Medical Association, Richmond, Va., 1933.

"Some Facts Concerning the Woman's Auxiliary to the American Medical Association."

"Jane Todd Crawford—Pioneer Heroine of Surgery"—Presidential Address of Mrs. A. T. McCormack before the Woman's Auxiliary, Southern Medical Association, Ashville, N. C., November, 1928.

"Our Pioneer Heroine of Surgery"—Address of Mrs. A. T. McCormack before the Filson Club of Louisville, Feb. 1, 1932.

"Jane Todd Crawford,—The Model Patient"—Address of Mrs. P. E. Blackerby at the unveiling of the McDowell Statue, in rotunda of State Capitol, Frankfort.

Jefferson County—Eighteen Auxiliary news items (to be filed later.)

Numerous newspaper items sent to Mrs. G. A. Hendon dating from 1925-1934.

(Mrs. V. A.) May Coleman Stilley, Chairman

REPORT OF CHAIRMAN OF ORGANIZATION

Soon after my appointment as chairman of Organization I wrote several letters to counties which seemed to me to be especially favorable to Auxiliary Organization. Two of these counties were organized later—Mercer County by Mrs. A. T. McCormack and Samson Hospital Community, comprising four counties, by Mrs. B. A. Menefee.

Later in the year I assigned the four districts into which the State had been divided to the four vice-presidents, asking them to try to perfect new organizations, and also to assist and encourage the old ones in all possible ways.

On September 1, I sent out the following questionnaire to each of these vice-presidents.

Number of counties in your district?
Number of Medical Societies?
Number of letters you have written?
Number of answers received?
Number of Auxiliaries in your district?
Number of new ones organized?
Number of new members this year?
Number of members paid dues this year?
Number of deaths and who?
What is the total membership in your district?

The following reports were received.

Mrs. Ben B. Keyes of Dist. No. 1

Number of Counties in district 13
Number of Medical Societies 13
Number of letters written 10
Number of answers received 4
Auxiliaries in First District 4
New Auxiliaries organized 1
(This new Auxiliary is Hickman County which joined Ballard-Carlisle, making a tri-county Auxiliary. I don't have it's membership.

In this district are the following Auxiliaries and membership.

Marshall County	6	Paid up Members	6
Calloway County	12	Paid up Members ...	3
Ballard-Carlisle	12	Paid up Members ..	10
Graves, old	18		
Graves, new	1		

Total Membership 49

Mrs. H. V. Usher of Dist. No. 2

Number of Counties in District 28
Number of Letters written 13
Number of Answers received 1
Number of Auxiliaries in district 2
Number of new Auxiliaries Organized 1
Number of New Members this year
Number of members paying dues this year:
Jefferson 179
Nelson 13
Harlan 14
Number of deaths and who 1
Mrs. Blake of Louisville
Total membership 206

Mrs. C. A. Menefee of Dist. No. 3

Number of Counties in district 29
Number of Letters written 32
Number of replies to letters 5
Number of Auxiliaries in district 1
Number of Members in district
Number of Members paying dues 15
Number of new Members 3
Number of deaths 1
Total Membership 27

Mrs. C. C. Threlkeld of District No. 4

Mrs. Threlkeld was unable to fill out a report but from other sources I have obtained this partial report.

Number of Counties in Fourth District.. 29
Number of Auxiliaries 1

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Number of new Auxiliaries 1
Number of members in old Aux. (Perry) 31
Number members in old Auxiliary who paid dues 29
Number of members in new Aux. (Harlan) 17
Number of members in new Auxiliary who paid dues 17
Total Membership 48

General Summary:

This year three new Auxiliaries have been added to our number, in addition to which Hickman County has organized and joined forces with the Ballard-Carlisle Auxiliary, thus forming a tri-county Auxiliary.

Thursday afternoon, May 31st, Mrs. W. M. Martin reorganized the Harlan County Auxiliary. This Auxiliary now has 17 paid up members.

On the same afternoon, May 31, Mrs. A. T. McCormack organized the Mercer County Auxiliary with fourteen paid up members. On Tuesday, June 5, Mrs. B. K. Menefee organized Samson Community Hospital Auxiliary with 14 paid up members

As nearly as I can ascertain our membership is now as follows:

Marshall Co. Auxiliary 6
Calloway 12
Ballard - Carlisle 12
Graves 18
Nelson 14
Jefferson 179
Mercer 14
Campbell - Kenton 27
Perry 31
Harlan 17
Samson Community Hospital 14

TOTAL 344

Besides which we have 20 members-at-large and two honorary members, making a grand total of 366 members.

Respectfully submitted,
(Mrs. C. A.) Hattie H. Menefee.

REPORT OF THE TUBERCULOSIS COMMITTEE

At the opening session of the 10th Annual Meeting of the Woman's Auxiliary to the State Medical Association, the following recommendation was made by the Advisory Council as recorded in the minutes found on page 15 of the January, 1933, quarterly, as follows:

"The only suggestion from the Council for new work this year, is that the Auxiliary interest itself in the problem of Tuberculosis in Kentucky; study to learn the facts and assist. to the best of its ability, the Kentucky Tuberculosis Association in its work of prevention and amelioration."

The objectives of this new committee as understood by your chairman, were to:

1st—Interest Auxiliary members.
2nd—Use them to interest others.

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a. by direct contact.
b. by circulating literature.
c. by grouping well informed citizens into speakers; ready to serve when needed.
d. organize social groups for visitation among the tuberculous.

3rd——Support and promote the Seal Sale and educational program of the Kentucky Tuberculosis Association.

4th—Educate the public in the care of and prevention of tuberculosis.

At the beginning of the year's work an attempt was made to contact the Tuberculosis Chairman of each local organization. Seven local chairmen responded and six of them have been loyal through the year. All attempts to contact one organization failed.

Letters were written to old organizations hoping some interest might be shown, even though they were not functioning. These letters brought no results.

With contact established with seven of the eight organizations, and active chairmen in six of them, promotion of our Tuberculosis Program was launched for the year.

In consultation with the editor of the Supplement to the Kentucky Medical Journal it was decided to try a Tuberculosis Page in each edition. This page we agreed should carry a message from the chairman concerning some important phases of the problem. Likewise a brief report from the field. The remainder of the page, it was agreed, should be filled with interesting information. The trial page appeared in the January, 1934, issue. The double barred crosses, in red, were made possible through the courtesy of the Kentucky Tuberculosis Association, and did much to make the page attractive.

Much assistance was given the Seal Sale Program through our local chairmen, and interest they were able to create. In some instances they acted as Seal Sale Directors, while in others they supplemented the work in different ways. Perhaps the most outstanding Seal Sale was done in Nelson and Jefferson Counties. The work of these two chairmen was so different in its nature that it would be unwise to try to compare it and they both deserve special mention in making this report. Of course, you recognize the difficulties met with throughout the State in attempting to carry on any one program.

The Early Diagnosis Campaign was stimulated through our local Chairman. Special literature was sent them. Material especially suitable for physicians was distributed by them. Through the summer many contacts were made in this manner, speakers' bureaus, newspaper publicity, radio schedules, etc., were a part of the work thus accomplished.

Throughout the year special emphasis was placed, upon re-establishing and strengthening health organizations. In this "Health Recovery Campaign" appropriate literature and messages were sent to our local Chairmen. Every phase of the work in such localities was strengthened by the splendid work of our good women.

To sum up: 52 letters were written during the year. Four special pages have been prepared for the Supplement. Small items, like TB-Lets, have been sent to the Public Health Monthly Bulletin of the State Department of Health, newspapers, etc., from time to time.

Our work has been carried on entirely without expense to the Auxiliary administration. The Kentucky Tuberculosis Association has supplied the Secretary for typing, mailing, etc., and taken care of the local expenses as a token of appreciation of the good work we have been doing. This work has been a pleasure to your Chairman and if in your judgment it has been worthwhile she will greatly welcome constructive criticisms while serving in this capacity.

One item of special interest, that is so outstanding and far reaching, deserves more than a passing comment. The summer session of the Camp Taylor Health School made possible by the Jefferson County Auxiliary illustrates what can be done by enthusiastic workers. Mrs. S. C. McCoy, a busy and practical woman, saw the need of some sort of assistance to unfortunate children, who were struggling against the problem of under-nourishment etc. She went to Dr. Oscar O. Miller, Director of Clinic and Field Work of the Board of the County Tuberculosis Hospital, Waverly Hills, and asked him what she could do. Dr. Miller told her. She, at once, set about to interest others. Not only did she interest them, but she enthused them and stimulated them to sew and make garments for them which they needed to wear in order to attend school, and also, to provide toys, books, candy, jams, jellies, etc., for them at Christmas and Easter. Then following the first Lenten, Come-And-See Trip to the regular winter session of the Camp Taylor Health School, March 14, 1934, she interested the Jefferson Auxiliary in the very great need of these children for continued care of this type through the summer. The Summer Session of the Camp Taylor Health School, provided during several summers past, was scheduled, because of lack of funds, for closing during 1934. But, with the enthusiastic support of Mrs. J. Duffy Hancock, President of the Jefferson Auxiliary, Miss Viola Fitzpatrick, Mrs. J. P. Fitzpatrick, Mrs. George C. Leachman, Mrs. F. Parks Ogden, Mrs. Richard Hudson and several other members, there was found a way to raise the funds necessary for the support of the school during six weeks, beginning July 16. As a re-

sult, 20 undernourished, tuberculous children were given the advantage of this splendid institution during the six hottest weeks of the summer. And, the report shows that instead of the usual let-down in their health progress during vacation, all held their own gains and 12 of them were so built-up at the end of the season that it was possible for them to go on in regular classes and take their proper place in school among normal children. A saving in many forms: health and well-being for the children and their parents, needless, unusual payment of Jefferson County taxpayers' money for the education of the handicapped, etc. All because a few women in an organized group caught the vision and were willing to exert themselves for others!

The enclosed clippings from newspapers may be of interest and are being filed as a part of this report.

Respectfully submitted,

(Mrs. Lucius E.) Beulah Grace Smith, Chairman

(To Be Continued In October Issue)

COME—AND—SEE TRIPS IN JEFFERSON COUNTY

Mrs. A. T. McCormack, Chairman

Mrs. J. B. Lukins, Secretary

A series of ten trips to Louisville health and welfare agencies, one each week during the Lenten Season, was planned for the Woman's Auxiliary of the Jefferson County Medical Society by Mrs. R. S. Witherspoon, Secretary of The Community Chest Speakers Bureau. Eighteen institutions or organizations were included in the program. A copy of the program was sent to every member and a card to be filled out showing intention of availing themselves of the pleasure and information derived from these trips and remailed to the secretary. Two of the series were postponed until later. These were the Camp Taylor Health School, Hazelwood Sanitarium, and Waverly Hills Sanitarium, all caring for tuberculous patients.

Assistants to the secretary on the trips were Mrs. C. C. English, Mrs. A. T. McCormack, Mrs. John C. Rogers, and Mrs. L. Lyne Smith.

Thursday, March 7, 1935
1:30 City Health Department
Louisville City Hall
Hosts

Dr. Hugh R. Leavell, City Health Officer.
Miss Florence Hauswald, Superintendent of Nurses.
Mrs. V. O. Gilbert, Child Housing.
Mr. J. A. Pickering, Sanitary Inspector.
Mr. J. R. Jennings, Milk Inspector.

Present (16 members, 3 visitors)

Miss Nancy Aud
Mrs. P. E. Blackerby
Mrs. J. P. Boulware
Mrs. J. G. Clem
Mrs. J. F. Dusch
Mrs. C. C. English
Mrs. J. K. Freeman
Mrs. O. H. Kelsall
Mrs. H. N. Leavell
Mrs. H. R. Leavell
Mrs. J. B. Lukins
Mrs. A. T. McCormack
Mrs. S. A. McCoy
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Demonstration

Brief outline of city health work ably given by Dr. H. R. Leavell, husband of one of our members, son of another, and nephew of one of our visitors.

$100,000 was spent last year for the betterment of health in Louisville, each taxpayer paying about thirty cents a year for community health protection.

Miss Hauswald next talked to us in the nurses' department, telling us something of the work of the nurses, who may be called the Guide-Posts of the Health Department. She asked for a representative from our Auxiliary for the Advisory Committee of the Nursing Division of the City Health Department. Mrs. McCoy as chairman of the Sewing Unit offered to make some "angel wings" (garments worn by high school girls when chests are examined in school clinic.)

Mr. Pikering, the sanitary inspector, gave a brief talk about his work. The most outstanding work was the careful inspection of milk. Then Mr. Jennings told us how often and how carefully the cows, barns, milk rooms, toilets, water supply, utensils, bottles, caps, in fact, everything and everybody connected with our milk supply has to be inspected. We are safe in drinking milk labeled grade A. There are six districts and inspectors sent often to each.

3:15 P. M. County Health Department
The Armory, 525 W. Walnut St.
Dr. John D. Trawick, Health Officer.

Demonstration

Most of the same group walked to the County Health Department. Miss Brian, Superintendent of Nurses, talked to us about the Nurses' work and Miss King showed us, on a map of the county, with large colored pins, exactly where certain contagious diseases were then prevalent. There was quite an epidemic of measles and much pneumonia following it, some whooping cough and scarlet fever, and a few cases of diphtheria, mostly among pre-school children, as practically all of the school children have been immunized.

Dr. Trawick gave us an interesting talk, spoke of mortality being extremely high in diphtheria; of toxoids being given to many pre-school age children; and of negroes being very susceptible to tuberculosis but almost immune from measles. There are eighteen members on the staff in this County Health Department. The negro nurse for the negroes is very efficient, well- educated, and trained.

(To be Continued in October Issue)

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KENTUCKY MEDICAL JOURNAL—PART II

WOMAN'S AUXILIARY SECTION

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THE DOCTOR'S SHOP
Pioneer Memorial State Park, Harrodsburg

OCTOBER, 1935

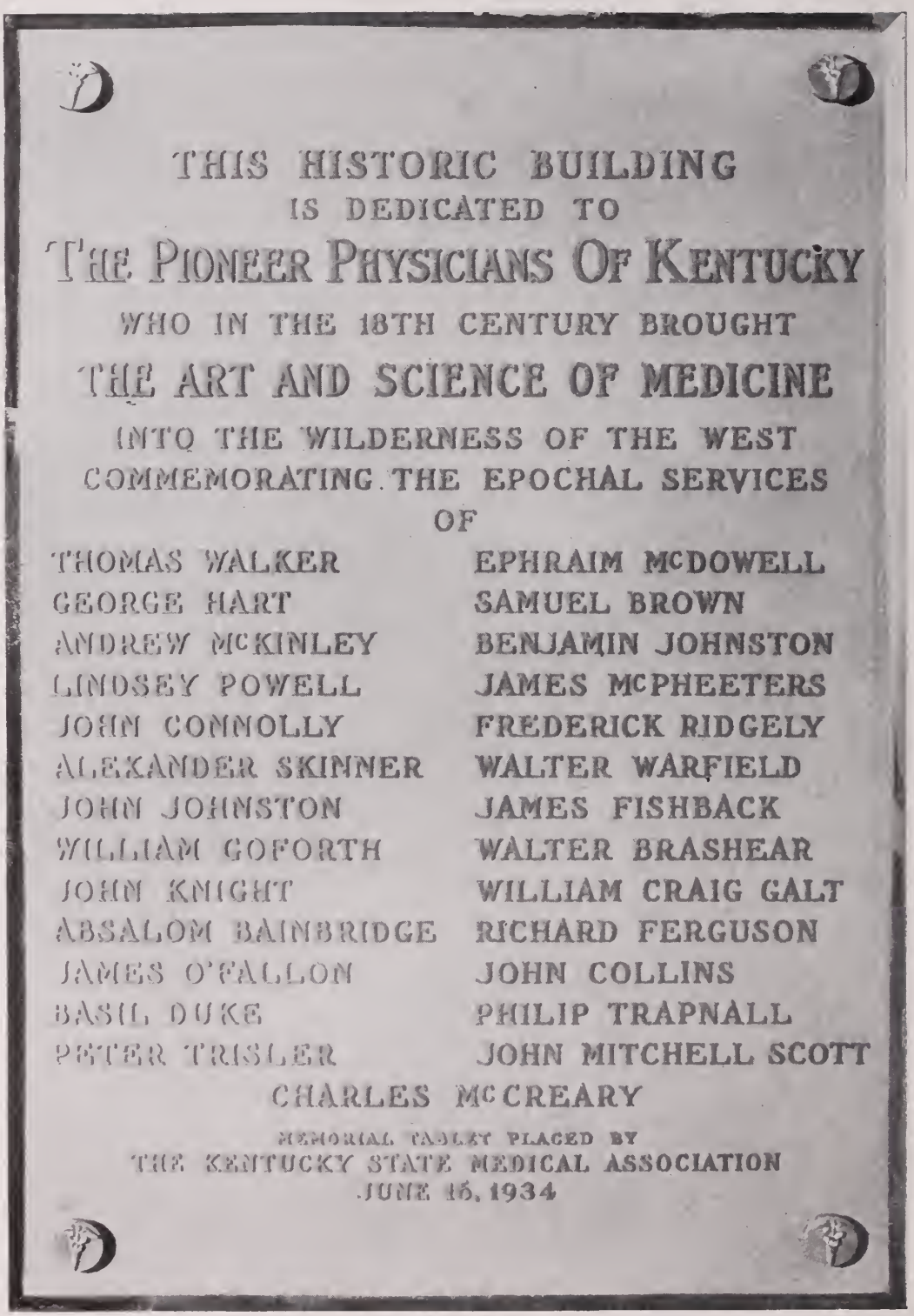


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MEMORIAL TABLET AT RIGHT OF ENTRANCE OF THE DOCTOR'S SHOP

KENTUCKY MEDICAL JOURNAL, PART II
WOMAN'S AUXILIARY SECTION
519 Tenth Street Bowling Green, Ky.
Vol. IV. October, 1935 No. 4
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THE AUDIT

The Annual Audit of the finances of the Woman's Auxiliary to the Kentucky State Medical Association is published on pp. 100-103 for the information of all Auxiliary members. A study of this important record will acquaint each member with the exact financial status of our organization. The Treasurer and the Business Manager of the Quarterly Supplement to the Kentucky Medical Journal respectfully request that each member familiarize herself with this record.

THE PRESIDENT'S MESSAGE

Mrs. J. I. Greenwell, New Haven

We have rounded out another year of federated endeavor and have arrived at the Convention period. As this is our Convention, yours and mine, we want everyone to have a portion in it. Every doctor's wife, though she may not be a member, is welcome to attend the meetings and share in the delightful social functions. Perhaps you have all noticed in our organization, made up of doctors' wives, an atmosphere of consciousness among the members we have never noticed in other organizations. Where is there a doctor's wife who does not understand the need of our lay people for authentic Health Education? Who has a better opportunity to direct the search for knowledge of Health Education than the well-informed doctor's wife? The answer is, "No one."

Thirteen local Auxiliary organizations are now functioning in Kentucky. Our wish for the year 1935-36 is that we might be better informed about Auxiliary aims in its many phases. And, become more familiar with the work of the National Auxiliary and of the Southern Auxiliary. Bulletins containing Minutes and Reports of the Southern Medical Auxiliary are ready for distribution among our members during the meeting.

To the members of my official family, I offer a "Thank You," including one to our Editor, Mrs. A. T. McCormack, for the privilege of using this space in our Quarterly Supplement. I have enjoyed working with you. My term of office has been a very pleasant and a very interesting one.

For Mrs. J. W. Nolan, who will succeed me in office, I earnestly solicit the same loyalty and cooperation that you have accorded me.

A WORD FROM MRS. J. W. NOLAN, HARLAN

Greetings! I am now making my debut as contributor to The Auxiliary Section of the Kentucky Medical Journal. Through the months to follow you shall hear from me often for even as this issue reaches you, our State Convention will be in session and I shall have been installed as your new President. I hope that I may serve you creditably.

No one has felt more keenly this responsibility, for I realize to the fullest what I have to live up to. I am following one of the pluckiest women Kentucky has produced. With her handicaps of the past year most of us would have thrown up our hands in dismay but her misfortunes have been a spur to her determination to carry on her work to a successful conclusion. God give us more Marie Rapier Greenwells!

-:- EDITORIALS -:-

THE DOCTORS' SHOP AT FORT HARROD

Interest in medical history appears to have become more general within the last few years and many profitable lessons presented through the stories revived of the old pioneers have been brought to light for the benefit, wonderment, inspiration and enjoyment of this younger generation.

Separate the word history into two parts and you have **His Story.** Actually, history is just that! His, The Maker's Story. Recorded by man inclined to err, we often have distorted accounts of what really happened. But—"Truth crushed to earth will rise again." And, this Truth is what all seekers of His Story aspire to find.

For the purpose of perpetuating the memory of the medical pioneers who served Kentucky colonists in their physical needs and who shared in full measure, often as leaders, the family and community problems of colonial development, the Kentucky State Medical Association has been awarded the custody of a small brick building near the entrance of Pioneer Memorial State Park, in Harrodsburg, Old Fort Harrod, earliest permanent white settlement in Kentucky. This building was dedicated as the Doctor's Shop with appropriate ceremony, attended by a large number of physicians with their families and friends from all over the State, on June 21, 1934.

Serving under the Advisory Council of the State Medical Association, the Woman's Auxiliary has been assigned the quest for suitable furnishings and relics to make this quaint memorial attractive and instructive to the many visitors who, the year around, stop at Pioneer Memorial State Park to learn more about the valiant men and women who braved the wilderness with all its unknown terrors and tribulations. We, their fortunate heirs, during these later days, enjoy the fruits of their labours. Surely, it is fitting and just that we, each, pause occasionally to acknowledge the deep debt of gratitude we each owe to these, the-then-Builders-of-the-Future—Our Present—and consider with grateful appreciation, for a moment at least, the hazards from which they have spared us!

During this first year of our work, begun during the presidency of Mrs. B. K. Menefee, Mrs. George A. Hendon has acted as State Chairman. Her report of the articles contributed for consideration, to date, through the assistance of the County Chairmen, will be found on page 97.

Our cover carries a front view of The Doctor's Shop. Reverse side, copy of the Memorial Tablet.

A full account of the Dedication Ceremony, together with illustrations and brief biographical sketches of the 27 medical practitioners whose names appear on the Memorial Tablet, will be found in the Kentucky Medical Journal, November, 1934. A neat, illustrated pamphlet containing the 27 brief biographical sketches, published by Mr. D. M. Hutton, Harrodsburg is on sale at The Doctor's Shop.

A WAIL! AND, A HOPE!

The recent epidemic of infantile paralysis stalking our children throughout the land, rich and poor alike, has given grave concern to all citizens. It has terrified mothers and fathers. It has kept our overworked physician-husbands from necessary sleep and relaxation as they earnestly, incessantly sought some means of prevention for those exposed to the disease and a cure or relief for the stricken. May they soon be rewarded with success!

Science will eventually light the way and show us how to cope with this baffling, relentless monster-dragon of disease and despair, we know; for the medical profession, dedicated to the saving of human life, is definitely determined to track down, thwart and destroy all causes of preventable disease and unnecessary death. Their success in conquering other dread scourges, such as small-pox, typhoid fever, scarlet fever and diphtheria, re-assures us that their patient persistence and diligent search will ultimately be compensated fully and, through them, effective means will be made available, for all who will, in the protection of children and adults, too, against this awesome pestilence. In fact, Success seems imminent! And—we hope!

KING SOLOMON OF KENTUCKY

The 1935 visitation of "the pestilence that walketh in darkness **** and the destruction that wasteth at noonday" in the form of the infantile paralysis epidemic, recalls to mind the vivid story presented by Dr. John S. Chambers before the Bradford History Club at Lexington. Dr. Chambers' story, entitled The Terrible Cholera Epidemic Which Swept Lexington in 1833, was published in the Lexington Leader, Sunday, June 4, 1933. It records a panic-breeding, devastating scourge which, among other things, demonstrated the unmistakable and imperative need of community sanitation as well as individual personal hygiene for every citizen.

Dr. Chambers records: "Old King Solomon since celebrated in story was the chief grave digger. He was the hero of the epidemic. From a town character, who had been sold as vagrant and who had sold his body for dissection for whiskey, he became an honored citizen. His portrait was painted by Price, a local portrait painter; a celebrated short story was written of him by James Lane Allen (Flute and Violin, p. 65) and a handsome stone was placed by his friends and admirers to mark his last resting place."

Publication in the Sunday Courier-Journal, May 12, 1935, of a poem by Mr. Edwin Carlile Litsey, Lebanon, Kentucky, a banker, also brings the Lexington story to our attention and, with his kind permission, we reprint this poem, King Solomon of Kentucky, below.

Mr. Litsey, a native Kentuckian, born at Beechland, now Litsey, Washington County, wields an effective pen, during his leisure hours from the bank, producing novels, short stories, essays, and several of which have been prize winners. His King Solomon Of Kentucky won the 1935 award in the annual poetry competition conducted by Fantasy, a poetry quarterly published in Pittsburgh. Mr. Litsey, Fantasy relates, took part in the unveiling of a tombstone erected in memory of King Solomon who is buried in the shadow of the shaft that marks the grave of Henry Clay.

KING SOLOMON OF KENTUCKY

By Edwin Carlile Litsey

His real name was William Solomon.
Such a ragged, dirty, drunken travesty of a man
That people called him King Solomon in mockery
But there was godhood in his sodden carcass,
As I shall tell.
He was a huge, good natured fellow
Who loafed much and worked little,
Valuing tobacco and whisky more than food.
He lived in Lexington an hundred years ago
A town character tolerated by some and scorned by others.
Once he was put upon the block and sold into servitude
For vagrancy, like a slave.
Then came that foul scourge called cholera.
The town was a vast morgue.
High and low and rich and poor died
Like flies sprayed with poison.
Those who could fled the pestilence,
And of those who remained not one could be found to dig graves.
It was then King Solomon shouldered his mattock and shovel
Voluntarily, and took up his abode in the cemetery.
Day and night he dug,
Sleeping on the ground when weariness overcame him.
Not until the plague left did he cease his Christ-like toil
Shaping a narrow bed for those who would not speak to him.
He took no pay for his work of love, but when all was over
He shambled back to town, found his favorite grog-shop,
And got dead drunk.

THE SOUTHERN MEET

The Woman's Auxiliary to the Southern Medical Association will meet in St.. Louis, Mo., November 20th and 21st. All women attending the Southern Medical Association Meeting are invited to the Auxiliary Meetings.

Members and eligible members of County Auxiliaries are very cordially invited to attend the luncheon meeting, Wednesday, November 20th, at 12:30 p. m., and the Annual Meeting, November 21st at 9:30 a. m. The Business Sessions are to be conducted on a schedule allowing time for social arrangements.

PLANNING FOR THE QUARTERLY'S FUTURE

Mrs. Wm. H. Emrich, Business Manager

It may be foolish to cross bridges before we get to them, but it is surely the exercise of wisdom to prepare in advance for the crossing. The uncertainties and difficulties attending any publication are inevitably ahead of us. But, if our interested Auxiliary members will lend a hand in procuring advertisements, or donations, the Woman's Auxiliary Supplement to the Kentucky Medical Journal will go forward to greater achievement and accomplishment in the coming year.

This month, our publication will complete its fourth year of life, and a vigorous, purposeful life it has been. Kentucky Auxiliary members may well be proud of their brain-child. So far it has enjoyed a healthy normal growth. But, the task continues to be ours to nourish it and provide sustenance for its future development.

In July and August the books are audited. The next task now is to get new advertisements and renewals for the 1936 issues. Does it not seem that November and December should be the seasonal and strategic time for Ad-getting? Many business men and women make up their budgets for the New Year in the remaining months of the old one. Planning and preparing for the crossing has rare advantages.

THE DOCTOR'S SHOP

Mrs. George A. Hendon, Louisville, Chairman

Since the dedication of the Doctor's Shop in Pioneer Memorial State Park, Harrodsburg, Kentucky, on June 21, 1934, it is our pleasure and privilege to make a report of contributions as follows:

INSTRUMENTS:—

Blood Letting Knife—Pearl Handle.
Used in Nashville, Tennessee, 1853, by Dr. J. D. Calhoun, Millersburg, Ky.
Presented by Dr. J. D. Calhoun
Secured by Mrs. B. K. Menefee, Covington

Trepanning Set—5 Instruments
Brought to Calloway County, 1872, and used by Dr. Robert Spilsby Coleman, Father of Mrs. V. A. Stilley.

Secured and Presented by Dr. and Mrs. V. A. Stilley, Benton.

Pocket Case—11 Instruments

Used by Dr. Bradford C. Snedaker, who practiced around Lexington and Midway 1860-1880.

Loaned by his grandson, Clark Snedaker, Louisville.

Secured by Mrs. A. T. McCormack.

One Leather Case

Containing 18 various small instruments, and a collection of 23 other Antique Instruments more than one hundred years old.

Used by Dr. S. B. Richardson, grandfather of Dr. John B. Richardson, Jr., Louisville.

Presented by Dr. John B. Richardson, Jr.

Secured by Mrs. George A. Hendon.

BOTTLES:—

12 old style bottles for medicine and ointments.

Presented by Mr. M. J. Wilbur, Antiquarian, Sixth St., near Main, Louisville.

Secured by Mrs. A. T. McCormack.

BOOKS:—

Morbid Anatomy, by Matthew Baillie, M. D. F. R. S. Third Edition; 2nd American Edition from the 3rd London Edition, Corrected.

Printed 1808 by G. W. Nichols, Walpole, N. H., for W. Fessenden, Bookseller, Brattleborough, Vermont. (First and Second Editions printed before 1800.) Wooden Covers, papered.

Secured by Mrs. J. I. Greenwell, New Haven.

Pharmacopoeia of the United States

By the authority of the National Medical Convention, held at Washington, 1830. Printed by John Grigg, Philadelphia, 1831.

Presented by Dr. Charles B. Kobert, Lebanon.

Secured by Mrs. A. T. McCormack, through Mrs. Sarah Vance Dugan, Louisville.

The Dispensatory of the United States of America, 12th Edition.

Carefully Revised by George B. Wood, M. D., and Franklin Bache, M. D.

Printed by J. B. Lippincott & Co., Philadelphia, 1867. First Edition printed 1833.

Presented March 9, 1935, by Dr. Theodore J. Yager, Louisville.

Secured by Mrs. A. T. McCormack, through Mrs. Elizabeth Y. Bishop, Owensboro.

Prescription Book, Indexed

"Prepared from leather-bound Record Book and used 1860-1880, by Dr. Bradford C. Snedaker, who practiced in and near Lexington and Midway."

Loaned by his grandson, Clark Snedaker, Louisville.

Specific Diagnosis

By John M. Scudder, M. D., Professor of Pathology and the Practice of Medicine in the Eclectic Medical Institute, Cincinnati. Second Edition.

Printed, 1874, by Wilstach, Baldwin & Co., Cincinnati.

Specific Medication, Revised.

By John M. Scudder, M. D. (As Above.)

Printed 1875 (Botti 10-11.)

Loaned by Clark Snedaker, Louisville.

Secured by Mrs. A. T. McCormack.

PICTURES:—

Large Silhouette, Framed, of Dr. Thomas Walker. May 30, 1935.

Presented by Dr. A. T. McCormack, descendant.

We sincerely hope the above report will prove an incentive to others to make an effort to locate appropriate articles and send them to The Doctor's Shop at Harrodsburg. It is your "Doctor's Shop, commemorating The Epochal Services of The Pioneer Physicians of Kentucky, who Brought The Art and Science of Medicine into The Western Wilderness."

CONSTITUTION AND BY-LAWS of the WOMAN'S AUXILIARY, KENTUCKY STATE MEDICAL ASSOCIATON

CONSTITUTION

Article 1—Name

The name of this organization shall be the Woman's Auxiliary to the Kentucky State Medical Association.

Article 2—Object

The object of the Auxiliary shall be to extend the aims of the medical profession, through the women members of families of physicians to other organizations which look to advancement in health and education; to assist in entertainment in State, District and County society meetings; to promote acquaintanceship among doctors' families, that local unity and harmony may be increased.

Article 3—Membership

(a) The membership of the Woman's Auxiliary to the Kentucky State Medical Association shall be composed of the membership of the Woman's Auxiliary to the County Medical Societies.

(b) The wives of members of County Medical Societies living in districts where there are no Auxiliaries may be invited to affiliate with the nearest County Auxiliary; or they may, as Members of the State at Large, send dues, One Dollar annually, to the State Secretary

Article 4—Officers

The Officers of this Auxiliary shall be a President, a President-Elect, four Vice-Presidents, a Secretary, a Treasurer, and a Parliamentarian. (A Corresponding Secretary may be appointed by the President.)

Article 5—Executive and Advisory Boards

(a) These officers, together with the County Presidents and the Chairmen of State Committees and the last three Past-Presidents of the State Auxiliary shall constitute an Executive Board to conduct the business of this Auxiliary.

(b) A regular meeting of the Board shall be held immediately before and after each annual meeting of the organization. Special meetings may be called by the President, or may be called upon written request of seven members of the Board.

(c) Four members of the Board shall constitute a quorum.

(d) The Executive Board shall have all power and authority over the affairs of the organization during the interim between its meetings, excepting that of modifying any action taken by the organization, and provided that no debt or liability, except for current expenses, shall be incurred by the Board. The Board is authorized to transact business by mail if necessary.

Article 6—Elections

(a) All officers shall be elected by ballot.

(b) The term of office of the Officers, with the exception of the President-Elect, shall begin at the close of the Annual Meeting at which they are elected. The term of office of the President-Elect shall begin at the close of the next Annual Meeting following the meeting at which she was elected. All officers serve one year, except the Secretary and the Treasurer who may be re-elected.

(c) All officers should be present at the meeting at which they are elected.

(d) A nominating committee shall be elected by the Executive Board to present a list of officers and representatives at the annual meeting; this committee to be composed of five members, not more than two of whom may be members of the Executive Board.

Article 7—Meetings

The meetings of the Woman's Auxiliary shall be held at the same time and place as the meetings of the State Medical Association. All members of County Auxiliaries have the privilege of attending the general meetings, but only accredited delegates may vote in the business of the meeting.

Article 8—Delegates

Each County Auxiliary shall be entitled to send its president and her alternate and one delegate and her alternate to each meeting. These accredited delegates with the members of the Executive Board form the voting body.

Twelve voting members shall constitute a quorum at any meeting of the organization, five of which shall be members of the Executive Board.

Article 9—Dues

A. Each County Auxiliary shall pay annually dues to the State Auxiliary at the rate of fifty cents per capita; this to include the dues of twenty-five cents per capita to the Woman's Auxiliary, American Medical Association, and the dues of one dollar per county organization, to the Woman's Auxiliary, Southern Medical Association. The dues, payable January 1st, should be sent to the National Auxiliary Treasurer and to the Southern Auxiliary Treasurer, by the State Treasurer.

B. Members of the State-at-Large shall pay their dues at the Annual Meeting or send them to the State Treasurer at that time.

C. A newly formed County Auxiliary shall pay an initiation fee of $2.00 in order to obtain representation at its first State Meeting. Thereafter, it shall pay its full membership dues at the rate of fifty cents per member to the State Treasurer at the end of the County Fiscal Year, as herein before provided.

Article 10—Amendments

This Constitution may be amended at any regular meeting of the Auxiliary, provided written notice has been sent each County Auxiliary, not less than two months prior to said meeting.

Article 11—Parliamentary Authority

The rules contained in Cromwell's Compendium of Parliamentary Law shall govern this organization in all cases to which they are applicable, and in which they are not inconsistent with this Constitution and By-Laws.

BY-LAWS

Duties of Officers

The duties of the President, Vice-Presidents, Secretary and Treasurer shall be those which usually devolve upon such officers.

The duty of the First Vice-President shall be to act as chairman of organization.

2.—Committees

The President and Executive Board shall have power to create such committees as become necessary to promote the welfare of the Auxiliary, providing, insofar as practicable, committees to correspond with the national standing committees.

3—Meetings

All meetings of the Auxiliary and the Executive Board shall be conducted according to the regular order of business and parliamentary laws which usually govern such meetings.

4—Quorum

Four members of the Executive Board shall constitute a quorum.

5—Amendments

These By-Laws may be amended at any meeting of the Executive Board or at the annual meeting of the Auxiliary by a two-thirds vote of the members present, provided such amendments do not conflict with the spirit of the Constitution.

AUDITOR'S REPORT

EXTRACT FROM THE AUDITOR'S REPORT TO THE COUNCIL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

I have examined the records of Mrs. Edna R. Krieger, Treasurer of the Woman's Auxiliary, and those of Mrs. William H. Emrich, Business Manager, and Mrs. Peter Guntermann, former Business Manager, of "The Quarterly." Exhibits and statements disclcsing the transactions reflected by their records are included in this report.

I wish to express appreciation of the courtesies and helpful assistance rendered by those in charge during the course of the examination.

Respectfully submitted,

P. WILLETT HAGAN, C. P. A.

Accounts of the WOMAN'S AUXILIARY To The KENTUCKY STATE MEDICAL ASSOCIATION

EXHIBIT "A"

RECEIPTS

Gross dues received	$151.50		
Less refunds	2.00	$149.50	
Less American Medical Association Auxiliary Dues	34.25		
Less Southern Medical Association Auxiliary Dues	9.00	43.25	
State Dues Received			$106.25
Miscellaneous Receipts			6.30
Total Receipts for 1934-35			$112.55

DISBURSEMENTS

Office supplies, postage and clerical help	$39.20		
Printing and Sationery	29.01		
Miscellaneous	15.39		
Government Tax and Bank Charge	3.28		
Total Disbursements		$86.88	
Gain on 1934-35 Operation		25.67	
Balance on hand July 31, 1934, First National Bank, Bardstown Road Branch, Louisville		$91.24	
Balance on hand July 18, 1935, First National Bank, Bardstown Road Branch, Louisville			$116.91

SAVINGS ACCOUNT

Louisville Trust Company, Louisville, Refunding Certificate		$46.67	
Louisville Trust Company, Louisville, July 1, 1934 Savings Account Balance	$57.98		
Interest	$3.06		
Less Government Tax	.12	2.94	
Total Savings Account Deposited in Louisville Trust Company, Louisville		$60.92	
Balance, July 18, 1935, First National Bank, Louisville, Jane Todd Crawford Memorial Fund		$693.38	

EXHIBIT "B"

Jane Todd Crawford Memorial Fund

1934-35

Balance forward August 1, 1934			$658.31
1934			
Aug. 24—Calloway County Auxiliary		$ 2.00	
Oct. 6—Mrs. Thomas J. Poteet, Hodgenville		1.00	
Nov. 24—Woman's Auxiliary to the Samson Community Hospital Medical Society		11.00	
Dec. 28—Graves County Auxiliary		5.00	
Receipts for year		$19.00	
1934			
Dec. 31—Interest	$8.26		
1935			
July 1—Interest	8.50	$16.76	
Less Government Tax	.69	16.07	
Total Receipts for Year			$35.07
Total Receipts to date, agreeing with Bank Balance			$693.38

EXHIBIT "C"

Paid Membership to July 18, 1935

	1932	1933	1934	1935
Allen	4	—	—	—
Ballard-Carlisle	—	—	12	10
Calloway	2	6	5	4
Campbell-Kenton	26	24	11	10
Graves	11	17	—	14
Jefferson	193	36	83	116
Marion	11	—	1	—
Marshall	6	8	6	6
Nelson	—	8	10	10
Perry	24	27	22	23
Samson Community Hospital	—	—	—	19
State at Large	7	17	20	23
Totals	284	143	170	235

EXHIBIT "D"

Detailed Statement of Receipts and Disbursements of Mrs. Edna R. Krieger, Treasurer, Woman's Auxiliary, Kentucky State Medical Association, from July 31, 1934, to July 18, 1935.

1934		Receipts	Disbursements
July 31	Balance Forward	$91.24	
July 31	Check No. 32 not deposited	.50	
July 31	Dues, Jefferson County, 28 Members	14.00	
Aug. 6	Initiation Fee, Harlan County Auxiliary, Mrs. J. W. Nolan, Treasurer, Harlan, Kentucky	2.00	
Aug. 24	Dues, Calloway County, 3 members	1.50	
Sept. 7.	Check No. 40—Mrs. B. K. Menefee, office supplies, postage, etc.		35.25
Sept.. 7.	Check No. 41—Times-Journal Publishing Company, Letter Heads		4.89
Sept. 11.	Dues, Calloway County, 1 member	.50	
Sept. 20.	Check No. 42—Southern Medical Auxiliary, dues		9.00
Sept. 24	Dues, Graves County, 14 members	7.00	
Sept. 26	Bank Charge		1.00
Sept. 26	Dues, Campbell-Kenton County, 5 members	2.50	
Oct. 11.	Dues, State at Large: Mrs.. Mason Combs, Pikeville; Mrs. M. D. Flanary, Pikeville; Mrs. Walker Owens, Mt. Vernon; Mrs. Charles A. Vance, Lexington	4.00	
Oct. 11.	Dues, State at Large (Collected at Annual Meeting, Harlan, October, 1934) Mrs. H. T Morris, Greenup	1.00	
	Mrs. E. F. Horine, Louisville	1.00	
	Mrs. J. C. Edwards, Lancaster	1.00	
	Mrs. C. F. Blankenship, Leitchfield	1.00	
	Mrs. John B. Floyd, Richmond	1.00	
	Mrs E. S. Allen, Louisville	1.00	
	Mrs. O. D. Add, Paducah	1.00	
	Mrs. E. V. Willingham, Paducah	1.00	
	Mrs. J. H. Parker, Corbin	1.00	
	Mrs. J. C. Morrison, Hickman	1.00	
	Mrs. C. F. Long, Elizabethtown	1.00	
	Mrs. Hugh E. Prather, Hickman	1.00	
	Mrs. L. Scott Hayes, Louisa	1.00	
	Mrs. H. N. Ellis, Williamstown	1.00	
	Mrs K. T. Layman, Elizabethtown	1.00	
	Mrs. John Blackburn, Bowling Green	1.00	
	Mrs. T. J. Poteet, Hodgenville	1.00	
Oct. 17	Dues, Marshall County, 1 member	.50	
Oct. 18.	Dues, Nelson County, 10 members	5.00	
Oct. 23.	Check No. 43—Mrs. A. T. McCormack, postage for 1934		1.95
Oct. 23.	Check No. 44—The Pettibone Bros. Mfg. Co., Cincinnati, Badges for Annual Meeting, 1934		12.30
Oct. 14.	For 23 copies of History sold at Annual Meeting 1934	2.30	
Oct. 31.	Check No. 45—Miss Grace Stroud, Dues 4 members Jefferson County paid at Annual Meeting		2.00
	Check Tax—October		.06
Nov. 18	Check No. 46—Times-Journal Publishing Company, Stationery		20.51
Nov. 26	Bank Charge		1.00
	Check Tax—November		.04
Dec. 10	Dues, Ballard, Carlisle County, 3 members	1.50	
Dec. 20.	Dues, State at Large, Mrs. S. H. Flowers, Worley, Ky.	1.00	
	Check Tax—December		06
1935			
Jan. 22	Dues, State at Large (1934-35) Mrs. G. S. Brock, London, Ky.	2.00	
Jan. 31.	Check No. 47—Mrs. Eben J. Carey, Treas. American Medical Association for dues		34.25
Feb. 18.	Check No. 48—Times-Journal Publishing Co., Stationery		2.18
Feb. 18	Check No. 49—St. Catherine High School, New Haven, Ky., for Clerical Help		2.00
Mch. 18.	Initiation Fee, Pulaski County Medical Auxiliary	2.00	
Mch. 25	Bank Charge		1.00
Mch. 25	Dues, State at Large, Mrs. C. W. Garrison	1.00	
Mch. 25	Dues, State at Large, Mrs. P. K. Sutton	1.00	
Apr. 1	Dues, Jefferson County, 93 members	46.50	
Apr. 30	Dues, Ballard-Carlisle County, 7 members	3.50	
May 1.	Dues, Campbell-Kenton County, 13 members	6.50	
May 2	Dues, Perry County, 23 members	11.50	
May 22.	Dues, Marshall County, 6 members	3.00	
June 1	Woman's Auxiliary to the Samson Community Hospital Medical Society, Barren County, 19 Members	9.50	
June 3	Dues, Jefferson County, 23 members	11.50	
June 3.	Check No. 50—Haupt Florist, flowers for Dr. B. K. Menefee		8.09
June 10	Dues, Ballard-Carlisle County, 1 member	.50	
June 18.	Check No. 51—Times-Journal Publishing Co., Stationery		1.03
July	Check Charge		.12
	Total Receipts	$249.04	
	Total Disbursements		$132.13
Balance on hand, First National Bank, Bardstown Road Branch, Louisville		116.91	
		249.04	$249.04

SUBSEQUENT REPORT

Received During Time Books Closed For Audit

July 13.	Dues, Calloway County, 3 members	1.50
Aug. 8.	Dues, State at Large, Mrs. C. P. Coogle, Houston, Texas	1.00
Aug. 11.	Dues, Jefferson County, 4 members	2.00
	Total	$4.50

EXHIBIT "E"

Collections and Disbursements by Mrs. Peter Guntermann, Business Manager, from July 31, 1934 to January 15, 1935, and Mrs. William H. Emrich, Business Manager, from January 15, 1935, to July 18, 1935, on account of The Quarterly, Supplement to The Kentucky Medical Journal, corresponding with checks, deposits and receipts filed.

RECEIPTS

Receipts from Advertisers, July 31, 1934 to July 18, 1935:		
Old Accounts Paid:		
1933 Accounts	$30.50	
1934 Accounts	190.50	
1935 Accounts	781.78	
Total received from Advertisers		$1,002.78
Contributions		45.00
Rebate from Times-Journal Publishing Company		2.06
Total Receipts 1934-35		$1,049.84

DISBURSEMENTS

Expense of Quarterly	$1,007.24	
Bank Service and Tax	.32	
Total Disbursements 1934-35		1,007.56
Net Balance of 1934-35 Collections		42.28
Balance in First National Bank, Shawnee Branch, Louisville		181.14
Check 1934-35 Balance for deposit		14.91
Total balance agreeing with Bank Balance as of July 18, 1935, Liberty Bank and Trust Co., Louisville		238.33
Accounts Receivable:		
1933 Accounts	$ 13.25	
1934 Accounts	91.25	
1935 Accounts	250.50	355.00
Total Assets		$593.33
Liabilities:		
Accounts payable		233.00
Net Worth		$360.33

EXHIBIT "F"

Donations to The Quarterly

1934		
Aug. 23	Mrs. A. A. Herold, Shreveport, Louisiana	1.00
Aug. 23	Mrs. A. B. McGlothlin, St. Joseph, Missouri	1.00
Sept. 1	Mrs. M. P. Overholser, Harrisonville, Missouri	
Sept. 1	Graves County Auxiliary (Mrs. H. V. Usher, Treasurer)	1.00
Sept. 1	Mrs. Fred M. Vinson, Ashland, Kentucky	1.00
Sept. 1	Marshall County Auxiliary (Mrs. W. T. Little, Secretary and Treasurer)	5.00
Sept. 1.	Mrs. J. L. Jones, Salt Lake City, Utah	1.00
Nov. 1	Mrs. Geo. Simeon Brock, London, Kentucky	2.00
Nov. 1	Mrs. Robt. Fitzgerald, Wauwatosa, Wisconsin	1.00
Nov. 1.	Mrs. Irvin Abell, 6 extra copies of The Quarterly	3.00
Sept. 1	Mrs. Jas. F. Perry, Los Angeles, California	1.00
Nov. 1	Mrs. S. S. Hesselgrove, St. Paul, Minnesota	1.00
Nov. 1	Mrs. Frank M. Gregor, Indianapolis, Indiana	1.00
Nov. 14	Mrs. Harvey Garrison, Jackson, Mississippi	1.00
Dec. 10	Mrs. William H. Emrich, Louisville, Kentucky	1.00
Dec. 11	Mrs. A. Ashbrook, Sec. & Treas. Ballard-Carlisle County	2.00
1935		
Jan. 5.	Mrs. C. W. Garrison, Lexington, Kentucky	1.00
Mar. 1	Mrs. J. J. Greenwell, New Haven, Kentucky	5.00
Mar. 4	Mrs. Sidney Meyers, Louisville, Kentucky	1.00
May 1	Perry County Auxiliary (Mrs. A. M. Gross, Sec. & Treas.)	5.00
June 4	Marshall County Auxiliary, Mrs. W. T. Little, Sec. & Treas.)	5.00
June 15	Mrs. W. M. Martin, Lonellen, Harlan County	2.00
June 15	Mrs. V. Eugene Holcombe, Charleston, West Virginia	1.00
June 15	Mrs. C. P. Corn, Greenville, South Carolina	1.00
Total donations July 30, 1934 through July 18, 1935		$45.00

EXHIBIT "G"

Accounts Receivable

Firm	Agent	Amount	
1933			
Kentucky Book Manufacturing Co.	Mrs. A. T. McCormack	$13.25	$13.25
1934			
Berry, John T.	Mrs. A. T. McCormack	$11.25	
Medical Arts Prescription Company	Mrs David Cohen	11.25	
Model Drug Company	Mrs. David Cohen	11.25	
Newman Drug Company	Mrs. A. T. McCormack	20.00	
Sanders, N. M. & Son	Mrs. A. T. McCormack	15.00	
Swiss Cleaners & Dyers	Mrs. P. Gunterman	11.25	
Walsh, The Misses ..	Mrs. A. T. McCormack	11.25	91.25
1935			
Cusick Studios	Mrs. J. Rivers Wright	11.25	
Ewing Von-Allman Dairy Company	Mrs. A. T. McCormack	50.00	
Gibbs Inman Company	Mrs. A. T. McCormack	20.00	
Haupt, Fred	Mrs. A. T. McCormack	15.00	
Hesse, H.	Mrs. A. T. McCormack	7.75	
Jones Cafe	Mrs. Margaret Martin	6.25	
Kentucky Hotel	Mrs. G. A. Hendon	35.00	
Louisville Chemical Company	Mrs. G. A. Hendon	11.25	
Log Palace Inn	Mrs. E. A. Barnes	6.50	
Mammoth Cave Oper. Committee	Mrs. C. C. Turner	3.50	
Newman Drug Company	Mrs. A. T. McCormack	20.00	
Old Stone Tavern	Mrs. R. H. Greenwell	8.25	
Swiss Cleaners	Mrs. Irving Abell	11.25	
Times-Journal Publishing Company	Mrs. A. T. McCormack	9.50	
Wilderness Road Book Shop	Mrs. G. A. Hendon	20.00	
Wolf, Chas.	Mrs.. Irving Abell	6.50	250.50
	Total		$355.00

EXHIBIT "H"

Accounts Payable

Times-Journal Publishing Company, balance on July, 1935 Issue $233.00

DETAIL OF ADVERTISEMENTS

Advertisements Secured From September, 1934-July 31, 1935, for Publication during 1934-35.

Firm		Contract	Paid
Barnes, A. B.	Mrs. E. A. Barnes	$ 6.50	$ 6.37
Baughman & Dotson	Mrs. Wm. Martin	6.25	6.12
Billie's Beauty Shop	Mrs. Wm. Martin	6.25	6.12
Brakmeier Bros.	Mrs. A. T. McCormack	20.00	20.00
Bousman, Lou Tate	Mrs. A. T. McCormack	20.00	20.00
Bush-Krebs	Mrs. A. T. McCormack	35.00	
Carrel-Rogers	Mrs. J. C. Rogers	6.50	6.50
Central Drug Company	Mrs. Wm. Martin	6.25	6.12
Cherokee Sanitary Milk Co.	Mrs. A. T. McCormack	11.25	11.25
Cowherd, J. W. & Co.	Mrs. A. T. McCormack	11.25	11.02
Cralle, Lee E.	Mrs. A. T. McCormack	11.25	11.25
Crutcher Dental, Laboratory	Mrs. I. Abell	11.25	11.25
Cusick Studios	Mrs. J. R. Wright	11.25	
Deckel, Groceries	Mrs. G. A. Hendon	20.00	20.00
Dennnzio, Jos.	Mrs. G. A. Hendon	11.25	11.25
Ewing Von-Allman	Mrs. A. T. McCormack	100.00	75.00
Gibbs-Inman Co.	Mrs. A. T. McCormack	20.00	
Gilliland Laboratories	Mrs. A. T. McCormack	60.00	60.00
Grocers Baking Co.	Mrs. A. T. McCormack	60.00	60.00
Green Miller Pharmacy	Mrs. M. Martin	10.00	10.00
Hampton Cracker Company	Mrs. A. T. McCormack	35.00	34.30
Harlan Drug Company	Mrs. M. Martin	6.25	6.13
Harping, Helen & Bros.	Mrs. I. Abell	11.25.	11.25
Haupt, Fred	Mrs. A. T. McCormack	15.00	15.00
Hawes, R. L., Insurance	Mrs. A. T. McCormack	11.25	11.02
Hesse, H.	Mrs. A. T. McCormack	11.25	3.50
Home Laundry	Mrs. I. Abell	10.00	10.00
Imorde, B. & W.	Mrs. J. C. Rogers	6.50	6.37
Jaglowicz, J. A.	Mrs. A. T. McCormack	11.25	
Jefferson County Milk Company	Mrs. G. A. Hendon	20.00	20.00
Jones Cafe, Harlan	Mrs. M. Martin	6.25	6.12
Kentucky Dairies, Inc.	Mrs. W. H. Emrich	11.25	11.25
Kentucky & Indiana Terminal Railroal	Mrs. A. T. McCormack	60.00	60.00
Kentucky Hotel	Mrs. G. A. Hendon	35.00	
Kentucky-Virginia Electric Co.	Mrs. M. Martin	6.25	6.12
Kleinman's Furs	Mrs. G. A. Hendon	11.25	11.25
Louisville Apothecary	Mrs. G. A. Hendon	11.25	11.25
Louisville Chemical Co.	Mrs. G. A. Hendon	11.25	
Louisville Fire & Marine Insurance	Mrs. A. T. McCormack	11.25	11.25
Log Palace Inn	Mrss E. A. Barnes	6.50	
Mammoth Cave Operating Company	Mrs. C. C. Turner	6.50	3.00
Medical Arts Prescription Co.	Mrs. David Cohen	11.25	
Model Drug Company	Mrs. David Cohen	11.25	
Muth Optical Company	Mrs. G. A. Hendon	11.25	11.25
Miller Funeral Home	Mrs. A. T. McCormack	35.00	35.00
Newman Drug Company	Mrs. A. T. McCormack	20.00	
Noe's Bar, B-2, Harlan, Ky.	Mrs. M. Martin	6.25	6.12
Nu-Way Cleaners	Mrs. M. Martin	6.25	6.12
Old Stone Tavern	Mrs. R. H. Greenwell	11.25	3.00
Powers & Horton	Mrs. M. Martin	20.00	19.60
Skidmore Floral Company	Mrs. M. Martin	6.25	6.12
Southern Optical Co.	Mrs. I. Abell	20.00	20.00
Standard Oil Company	Mrs. A. T. McCormack	20.00	20.00
Stoll Oil Refinery	Mrs. A. T. McCormack	20.00	20.00
Strassel-Gans	Mrs. I. Abell	6.50	6.50
Stratton & Terstegge	Mrs. J. C. Rogers	11.25	11.25
Swiss Cleaners	Mrs. I. Abell	11.25	...
Tafel Surgical Instrument Co.	Mrs. G. A. Hendon	20.00	20.00
Times-Journal Publishing Company	Mrs. A. T. McCormack	35.00	25.50
Wallace Confectionary	Mrs. M. Martin	6.25	6.25
Wilderness Road Book Shop	Mrs. G. A. Hendon	20.00	
Wolf, Chas.	Mrs. I. Abell	6.50	
Young, C. W.	Mrs. Hugh N. Leavell	6.50	6.50
Bush-Krebs, Engravers, payable in Service			

SUBSEQUENT REPORT—NEW CONTRACTS SECURED FOR OCTOBER, 1935, ISSUE:

Muth Optical Company	Mrs. W. H. Emrich	11.25

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS WOMAN'S AUXILIARY SECTION, JANUARY, 1935 to SEPTEMBER 1, 1935

RECEIPTS:		
January, 1935	$367.99	
April	171.27	
May	163.55	
July	44.87	
Aug.	24.84	
Total Receipts		$775.52
DISBURSEMENTS:		
Jan. 21, 1935—Check No. 1, Times Journal	206.52	
Apr. 19, 1935—Check No. 2, Cash, Stamps, Express	10.95	
Apr. 20, 1935—Check No. 3, Times-Journal	291.03	
May 16, 1935—Check No. 4, Times Journal	3.61	
July 29, 1935—Check No. 5, Times-Journal	228.34	
Aug. 20, 1935—Check No. 6, Times-Journal	6.84	
Federal Bank Tax	.24	
Total Disbursements		$747.53
Balance August 31, 1935, as per Cash Book		$ 27.99
Bankruptcies Recorded in August, 1935:		
Berry, John T.—Photographer		$11.25
Wolf, Chas.—Caterer		6.50
		$17.75

CHILD HEALTH AND WELFARE

Mrs. Philip F. Barbour, Louisville, Chairman

MULTIPLE BIRTHS*

By Helen Caudill, Blackey

Since the occurrence of the world's most celebrated blessed event in Corbeil, Canada, May 28, 1934, many people for over a year now have been thinking in terms of quintuplicity, and our doctors, specialists and general practitioners alike, suddenly sat up and took notice when five tiny pink bombshells exploded into the realm of obstetrical science revealing something unusual and very interesting.

Rich and poor, famous and ordinary folk eagerly grasp any paper or periodical containing a picture or an article about the greatest biological miracle of our age, namely the Dionne affair. The whole world knows when the first little tooth came through and that coquettish Marie has an innocent little tumor on her baby leg.

For a while there appeared among the faddishly susceptible inhabitants of our sphere the fad of "fiving" things. At the bridge table it was very common for someone to bid just "five" spades, hearts or what have you, and trust to the "five little Dionne shavers for luck." Or what Mr. and Mrs. Santa Claus didn't receive a letter from the little princess of the household this past Xmas requesting five dollies instead of one? One salesgirl in a certain toy store approached her manager with bewilderment loading her down. She explained that she had already sold twenty sets of quints that afternoon but her last customer had demanded a Dr. Dafoe and little French nurse to go with hers.

This startling event has brought to light facts concerning a similar drama which took place in the small isolated village of Hollis, Oklahoma, twenty years ago. The difference is merely fractional—there were four girls instead of five. To borrow from Mr. William Corbin's "Bunch of Keys," as it appeared in the past June edition of the AMERICAN MAGAZINE, this is the story in a nutshell. The night of June 4, 1915, Dr. W. C. Pendergast hurriedly went a-storkin' to the home of Mr. and Mrs. Flake Keys in the small Oklahoma town. As storks will do, he departed leaving four wriggling baby girls to squall for, but eventually bless these hard-working Scotch-Irish folk who already had four children. Being born in a region famous for its twins and triplets the Keys' debut was unpublicized, and now, twenty years later these same four girls are ample proof that "four equals one."

Like the inquisitive and toy-wrecking youngster on Xmas morning, we read, wonder, and try to solve the mystery of what makes a thing go, where it came from, and what it's made of. So, the usual one little fellow we take very matter-of-factly. Twins get very little more comment. Even triplets soon lose public attention. And quadruplets, when they do occur, occupy the limelight wherever they are. But quintuplets! Well, the whole world's still talking!

If obstetrical science has known little or much about multiple births, very little has been said or written about it, and whatever the good Dr. Pendergast knew concerning the practical side of this life phenomenon was never divulged to humanity so far as we at present know. Perhaps he has since told St. Peter in some of their tete-a-tetes.

Getting down to some facts from some of our leading obstetricians, we learn that every normal, mature, female uterus occasionally contains two or more embryos; thus according to the number present we have a twin, triplet, quadruplet, or quintuplet pregnancy. There is only one credible instance of sextuplet pregnancy on record, but this case, reported by Vassali, has been subjected to considerable criticism. Reports of more than six children at a single labour are to be regarded as apocryphyl although we read of many such in the older literature.

Some obstetricians and birth statisticians of the 18th and 19th centuries offer enlightening statistics. G. Veit, a Prussian, basing his figures upon thirteen million cases, showed that twins occur once in 89, triplets once in 7,910, and quadruplets once in 371,125 labours. One of our moderns would show that triplets occur once in every ten thousand births, and quadruplets once in a million. There have been only 32 cases of quintuplicity recorded, and the Dionnes, the 32nd case, have been the only ones to survive more than a few hours.

It would appear that multiple births are more common in cold than in warm climates. This statement is borne out by the statistics of the Frenchmen, Bertillon and Mirabeau, the latter stating that they occur once in 41.8 cases in Russia as compared with 113.6 in Spain. Canada also seems to tally with the statement. Duncan says that multiple pregnancy occurs most frequently in multiparae, especially between the 25th and 29th years. Mrs. Dionne was 26 and the quins made her sixth pregnancy. Mrs. Keys was in her early thirties.

Certain individuals appear to be predisposed towards multiple births since it isn't unusual for the same woman to give birth to twins or triplets upon several occasions. Mirabeau pointed out an hereditary tendency towards triplets recorded in 13 out of 75 cases.

*Read before the Perry County Auxiliary, Hazard, August 9, 1935.

According to Hellin and Larger, multiple pregnancy should be regarded as a sign of degeneration and represents an atavistic reversion.

In his clinical report, Dr. Pendergast stated that Roberta and Mona of the Keys' quadruplets were identical twins, product of the same cell, and that Mary and Leota were fraternal twins, each born of a separate cell. So far Dr. Dafoe hasn't made a similar report but from reading what reporters, photographers, and artists report, Emelie and Cecile are the identicals of the Dionne squad while Marie, Yvonnee, and Annette are the fraternals.

But whatever obstetricians and the rest of the world conclude about the why and wherefore of the bunch of Keys and the Dionne regiment, Papa Dionne will continue to laud himself upon his achievement as a father, and until some discovery disproves what we believe to be a wholly fortuitous and providential birth, let's drink a toast to the quins and wait for some stalwart American to bring the title to us!

SOCIAL SECURITY ACT

A. T. McCormack, M. D.

The Social Security Bill has been finally enacted into law by the Congress and signed by the President. The vast social reform that will result from this will affect the lives of every citizen of the United States now living and of every one yet to be born. Under it, the Federal and State Governments have embarked on a social program embracing old age pensions, old age assistance, unemployment insurance, pensions for the blind, mothers' pensions, child welfare and maternal and child health programs, assistance for the rehabilitation of crippled children, vocational rehabilitation of those suffering from industrial injuries, and a vastly broadened public health program.

It is very important for our people to realize that the Social Security Bill does not require any minimum that the State has to raise. All the grants are on the basis of the Federal Government matching, within certain limits, what the State does. It is again important to realize that, while the Act sets up certain minimum standards, the State makes its own plan and this plan must provide for such methods of administration as will ensure efficiency in operation. For example, in order to secure Federal assistance under the old age pension sections, a state agency must be provided for the administration of the State plan and the plan must be state-wide, and, if administered by local governmental agencies, must be mandatory upon them. Provision must be made in the law that where claims for assistance have been denied, they must have an appeal to a State agency. The State residence requirements may not exceed five years within the last nine years. One year of residence immediately preceding application may be required. After January, 1940, State plan must provide an age limit of not over sixty-five years, but until then a seventy year limit is permissible.

The fear most frequently expressed by those who are superficially acquainted with this vast social program is that it will be under the control of a Federal bureaucracy. Nothing is further from the truth. In each of the titles of the bill the initiation of all plans and the maintenance of all programs are retained to the States. They are, of course, required to make such reports and to submit to such audits as will show that the Federal money is expended for the purposes for which it is appropriated.

It is important also to call the attention of the public to the fact that while the Federal bill has been enacted into law, it is not effective except where state laws have been enacted. Therefore, Old Age Pensions will not be available until the Legislature has made provision for them. This cannot be done unless the pending Constitutional Amendment authorizing old age pensions shall be approved by the people in the November election. This amendment was submitted by our last General Assembly, in anticipation of the passage of the Federal law.

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DIRECTORY OF COUNTY MEDICAL AUXILIARY ASSOCIATIONS

BALLARD-CARLISLE COUNTIES

Organized at Cunningham, September 5, 1933. Regular meetings, quarterly, first Tuesday in March, June, September, July. Annual Meeting, September 3, 1936. Fiscal Year, January 1 to December 31.

ADVISORY COUNCIL

J. F. Dunn, M.D., Arlington J. F. Hahs, M.D., LaCenter
E. E. Smith, M.D., Bardwell

OFFICERS 1934-1935

President—Mrs. Earl Edwin Smith, Bardwell
Secretary-Treasurer—Mrs. William A. Ashbrook, R. D. 2, LaCenter

COMMITTEE CHAIRMAN

Historical Collections—Mrs. William Arrelious Page, Barlow
Program—Mrs. James Frederick Harrell, Bardwell
Publicity—Mrs. John Francis Hahs, LaCenter
Tuberculosis—Mrs. Ezra George Titsworth, Bandana

ACTIVE MEMBERS

Ashbrook, Mrs. William A., R. D. 2, LaCenter
Benson, Mrs. E. W., Bardwell
Burrow, Mrs. Rueben C., Cunningham
Gholson, Mrs. William Edward, R. D. 1, LaCenter
Hahs, Mrs. John Francis, LaCenter
Harrell, Mrs. James Frederick, Bardwell
Kennedy, Mrs. Edward LaTane, Milborn
Page, Mrs. William Arrelious, Barlow
Payne, Mrs George William, Barlow
Smith, Mrs. Earl Edwin, Bardwell
Titsworth, Mrs. Ezra George, Bandana
Titsworth, Miss Lyle, Bandana

RESIGNED

Mosby, Mrs. Mattie Petrie, Bardwell

MOVED

Harper, Miss Beatrice—from Lone Oak

CALLOWAY COUNTY

Organized May 7, 1929 at Murray. Irregular meetings. Annual Meeting, October, 1933. Fiscal Year, January 1 to December 31.

ADVISORY COUNCIL

J. A. Outland, M. D., Murray; W. F. Grubbs, M. D., Hazel
C. H. Jones, M. D., Lynn Grove

OFFICERS 1933-1934

President—Mrs. Edward Brent Houston, Murray
Secretary-Treasurer—Mrs. Cody Harrison Jones, Lynn Grove

ACTIVE MEMBERS

Houston, Mrs. Edward Brent, Murray
Jones, Mrs. Cody Harrison, Lynn Grove
Keys, Mrs. Ben Butler, Murray
Outland, Mrs. James Alfred, Murray

CAMPBELL-KENTON COUNTIES

Organized January 31, 1930, at Covington. Regular meetings, first Thursday of each month. Annual Meeting, April, 1935. Fiscal year, February 1 to January 31.

ADVISORY COUNCIL

John E. Dawson, M. D., Newport
Charles Atwood Menefee, M. D., Covington
William R. Miner, M. D., Fort Mitchell

OFFICERS 1935-1936

President—Mrs. John Todd, Sixth and Park Avenue, Newport.
1st Vice-President—Mrs. James Asher Caldwell, 131 Electric Avenue, Southgate
2nd Vice-President—Mrs. Henry Clay White, 3826 DeCoursey Avenue, Covington
Secretary—Mrs. Luther Bach, 325 Taylor Avenue, Bellevue
Treasurer—Mrs. Clayton Whittemore Shaw, Alexandria
Parliamentarian—Mrs. Bartlett Kniffin Menefee, 2120 Glenway, Covington

COMMITTEE CHAIRMEN

Historical Collections—Mrs. Nelson Asbury Jett, 108 East Southern Avenue, Covington
Hygeia—Mrs. Luther Bach, 325 Taylor Avenue, Bellevue
Jane Todd Crawford—Mrs. John Hadley Caldwell, Eighth and Walnut Streets, Newport
Membership—Mrs. Stuart Goslin Biltz, 601 Monroe Street, Newport
Program—Mrs. Charles Baron, 34th Street, Covington
Publicity—Miss Pauline Haley, 15 Horsebranch Road, South Fort Mitchell
Social—Mrs. Henry Clay White, 3826 DeCoursey Avenue, Covington
Tuberculosis—Mrs. Charles Atwood Menefee, 302 Earle Avenue, Covington

ACTIVE MEMBERS

Bach, Mrs. Luther, 325 Taylor Avenue, Bellevue
Dawson, Mrs., Newport
Jett, Mrs. Nelson Asbury, 108 East Southern Avenue, Covington
Menefee, Mrs. Bartlett Kniffin, 2120 Gleuway, Covington
Menefee, Mrs. Charles Atwood, 302 Earle Avenue, Covington
Morris, Mrs. Chester Atherton, 316 West 34th Street, Covington
Shaw, Mrs. Clayton Whittemore, Alexandria
Todd, Mrs. John, Sixth and Park Avenue, Newport
White, Mrs. Henry Clay, 3826 DeCoursey Ave., Covington

ASSOCIATE MEMBERS

Acree, Miss Lena, 2120 Glenway, Covington
Haley, Miss Pauline Catherine, 15 Horsebranch Road, South Fort Mitchell

GRAVES COUNTY

Re-organized August 20, 1931 at Mayfield. Quarterly meetings. Annual Meeting in August. Fiscal year March 1 to February 28.

ADVISORY COUNCIL

H. H. Hunt, M.D., Mayfield
W. E. Merritt, M. D., Fancy Farm
H. V. Usher, M. D., Sedalia

OFFICERS 1935-1936

President—Mrs. H. V. Usher, Sedalia
Vice-President—Mrs. Moza West Hurt, Mayfield
Secretary-Treasurer—Miss Jincy Hunt, Mayfield

COMMITTEE CHAIRMEN

Jane Todd Crawford Memorial—Mrs. Herbert Hobson Hunt, Mayfield
Hygeia—Mrs. Moza West Hurt, Mayfield
Tuberculosis—Mrs. William J. Shelton, Mayfield

ACTIVE MEMBERS

Colley, Mrs. Lube Gerard, Farmington
Dismukes, Mrs. John Lynch, Mayfield
Fuller, Mrs. George Terrell, Mayfield
Hargrove, Mrs. Wilbur Samontha, Hickory
Hunt, Mrs. Herbert Hobson, Mayfield

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Hunt, Miss Jincy, Mayfield
Hurt, Mrs. Moza West, Mayfield
Merritt, Mrs. Edna, Fancy Farm
Merritt, Mrs. Wilbur Ernest, Fancy Farm
Mullins, Mrs. Stanley, Wingo
Pryor, Mrs. John Ray, Mayfield
Puryear, Mrs. John Gabriel, Mayfield
Shelton, Mrs. John Henry, Mayfield
Shelton, Mrs. William Jasper, Mayfield
Usher, Mrs. Harland Vernon, Sedalia
Vaughn, Mrs. William Thomas, Mayfield
Walters, Mrs. Earl Charles, Mayfield

RESIGNED

Colley, Miss Ruth, Farmington

MOVED

Colley, Miss Sunshine—from Farmington

HARDIN COUNTY

Re-organized, April 12, 1935, at Brown-Pusey Home, Elizabethtcwn. Fiscal year, April 1, to March 31st.

ADVISORY COUNCIL

C. F. Long, M.D, R. T. Layman, M.D., J. I. Taylor, M.D. all of Elizabethtown

OFFICERS 1935-1936

President—Mrs. Reasou T. Layman, Elizabethtown
Vice-President—Mrs. Shelby P. Bale, Elizabethtown
Secretary—Mrs. Charles Fount Long, Elizabethtown
Treasurer—Mrs. Eliza Lancaster, Elizabethtown

HONORARY MEMBER

Mrs. William Allen Pusey, Elizabethtown and 2100 Lincoln Park West, Chicago, Illinois

ACTIVE MEMBERS

Bale, Mrs. Shelby P., Elizabethtown
Bethel, Mrs. Will, Elizabethtown
English, Mrs. John Morris, Elizabethtown
Lancaster, Miss Eliza, Elizabethtown
Layman, Mrs. Reason T., Elizabethtown
Long, Mrs. Charles Fount, Elizabethtown
Nusz, Mrs. Herbert R., Cecilia
Taylor, Mrs. John Irwin, Elizabethtown

ASSOCIATE MEMBER

Woodward, Mrs G. W.

HARLAN COUNTY

Re-organized at Harlan, May 31, 1934. Regular meetings, last Saturday of each month. Annual Meeting, May, 1936. Fiscal Year, June 1 to May 31.

ADVISORY COUNCIL

Clark Bailey, M. D., Harlan E. M. Howard, M. D., Harlan
W. R. Parks, M. D., Harlan

OFFICERS 1934-1935

President—Mrs. William Monroe Martin, Louellen
Vice-President—Mrs. Clark Bailey, Harlan
Secretary-Treasurer—Mrs. Joseph W. Nolan, Harlan

COMMITTEE CHAIRMEN

Child Health and Welfare—Mrs. Clark Bailey, Harlan
Jane Todd Crawford Memorial—Mrs. Seymore Rowland, Cawood
Tuberculosis—Mrs. William P. Cawood, Harlan

ACTIVE MEMBERS

Aikens, Mrs. Ernest William, Kildav
Bailey, Mrs. Clark, Harlan
Beauchamp, Mrs. Paul, White Star
Buttermore, Mrs. Harry K., Liggett
Cawood, Mrs. William P., Harlan
Fields, Mrs. David Maggard, Cumberland
Howard, Mrs. Elhanon Murphy, Harlan
Martin, Mrs. Martha, Louellen
Martin, Mrs. William Monroe, Louellen
Nolan, Mrs. Joseph Wynne, Harlan
Parks, Mrs. William R., Harlan
Paynter, Mrs. Charles Caleb, Twila
Riley, Mrs. William E., Harlan

JEFFERSON COUNTY

Organized September 18, 1926 at Louisville. Regular meetings: Business luncheon meetings held quarterly, first Monday of March, June, September, December. Study Class meets at 11:00 A. M., first Monday each month from October through April. Sewing Unit meets at 10:00 A. M., second Tuesday of each month in all day session. Golf Unit, in conjunction with the Falls City Golf Association, meets in turn, at the various private and Municipal Courses, on the first and third Tuesdays of the month from April through October. Election of Officers, at March quarterly meeting with Installation at June quarterly meeting, which is the Annual Meeting, when Annual Reports are made. Fiscal Year, April 1 to March 31.

ADVISORY COUNCIL

Irvin Abell, M. D., Louisville Guy Aud, M. D., Louisville
Charles W. Hibbitt, M. D., Louisville

OFFICERS 1935-1936

(All of Louisville)

President—Mrs. Stephan Clifford McCoy, Preston St. Road
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2nd Vice-President—Mrs. Roscoe Conklin Adams, 2044 Alta Avenue
3rd Vice-President—Mrs. Ernest H. Koch, 3800 West Broadway
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Parliamentarian—Mrs. Melvin Clinton Baker, 208 Galt Avenue

ADVISORY COMMITTEE

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Mrs. William Edgar Fallis, 2046 Sherwood Avenue
Mrs. John King Freeman, 2104 West Broadway
Mrs. James Duffy Hancock, 80 Valley Road
Mrs. George Clinton Leachman, 1820 Casselberry Road
Mrs. James S. Lutz, 4349 Park Boulevard
Mrs. Oscar Oswald Miller, 2321 Alta Avenue

COMMITTEE CHAIRMEN

Archives—Mrs. Henry Arch Herzer, 2105 Rutherford Ave.
Better Films—Mrs. Calvin Garnett Arnold, 3210 Wren Road
Fruit and Flower Guild—Mrs. Wm. Edgar Fallis, 2046 Sherwood Avenue
Golf—Mrs. Judson Powell Boulware, 1111 Ray Avenue
Historical Collections—Mrs. John King Freeman, 2104 West Broadway
Hospital & Welfare—Mrs. Everett Leighton Pirkey, 1705 Tyler Parkway
Hygeia—Mrs. Melvion H. Mathewsian, 4026 South Third Street
Jane Todd Crawford Memorial—Mrs. George A. Hendon—

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Mayor's Committee—Mrs. Lucien Lyne Smith, 208 Pleasantview Avenue
Membership—Mrs. Oliver Patterson Miller, 1431 Tyler Parkway
Music & Entertainment—Mrs. Frank J. Daugherty, 1430 Goddard Avenue
Public Relations—Mrs. Arthur Thos. McCormack, Brown Hotel
Publicity—Miss Grace Stroud, 424 East Lee Street
Radio—Miss Grace Stroud, 424 E. Lee Street.
Sewing Unit—Mrs. John M. Keaney, 1600 Eastern Parkway
Study Class—Mrs. Curt H. Kreiger, 2000 Grasmere Drive
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Organized, September 7th, 1926, at Benton. Regular meetings, third Friday evening each month. Annual Meeting, March, 1936. Fiscal year, September 1 to August 31.

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Henson, Mrs. Samuel Lafayette, Benton
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Neil, Mrs. Newman J., Birmingham
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MERCER COUNTY

Organized May 31, 1934, at Harrodsburg. Regular meetings, third Monday of each month, September through June. Annual Meeting, June 1936. Fiscal year, June 1 to May 31.

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Thomas Jefferson Price, M. D., Harrodsburg
Thomas Overton Meredith, M. D., Harrodsburg

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Program—Mrs. J. Thomas Price, Harrodsburg
Publicity—Mrs. John Burton Robards, Harrodsburg
Relief—Miss Mary Dudley Powell, Harrodsburg

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Coleman, Mrs. Cleland, Harrodsburg
Coleman, Mrs. Hunter, Harrodsburg
Crutcher, Mrs. Leslie C., Harrodsburg
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Meredith, Mrs. Thomas Overton, Jr., Burgin
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Van Arsdall, Mrs. Condit B., Harrodsburg
Van Arsdall, Miss Elizabeth, Harrodsburg
Wash, Mrs. Bishop, Cornishville

NELSON COUNTY

Organized October 14, 1931, at Bardstown. Regular meetings second Tuesday of each month. Annual Meeting, October 8, 1935. Fiscal year, November 1 to October 31.

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E. D. Mudd, M. D., New Haven
A. P. Steely, M. D., Bardstown

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Vice-President—Mrs. W. E. Crume, Bardstown
Secretary-Treasurer—Mrs. E. D. Mudd, New Haven

COMMITTEE CHAIRMEN

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Child Health & Welfare—Mrs. Laura Summers, Bardstown
Historical Collection—Mrs. W. J. Roby, Bardstown
Hygeia—Mrs. Ida Pritchett, New Haven
Jane Todd Crawford Memorial—Mrs. R. H. Greenwell, Bardstown
Organization—Mrs. A. D. Steely, Bardstown
Public Instruction—Mrs. C. B. Elston, Bardstown
Public Relations—Mrs. W. E. Crume, Bardstown
Tuberculosis—Mrs. Laura Summers, Bardstown

HONORARY MEMBER

Mrs. Laura Beckwith Summers, Bardstown

ACTIVE MEMBERS

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Elston, Mrs. Charles Benton, Bardstown
Greenwell, Mrs. Joseph Ignatius, New Haven
Greenwell, Miss Martha, New Haven
Greenwell, Mrs. Richard Henry, Bardstown
Mudd, Mrs. Edward Denotas, New Haven
Pritchett, Mrs. Ida Jane, New Haven
Roby, Mrs. William J. Bardstown
Steely, Mrs. Arthur Dillman, Bardstown

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McCawley, Mrs. Holman, Bardstown
Wood, Mrs. Ernest Carlton, Bloomfield

MOVED

Greenwell, Miss Kathleen, from New Haven

PERRY COUNTY

Organized July 11, 1927 at Hazard. Regular meetings, first Friday of each month. Annual Meeting, April 5, 1935. Fiscal year, May 1 to April 30.

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J. M. Ray, M.D., Allais
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Organized, March, 1935 at Somerset.

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Organized June 5, 1934 at Glasgow. Regular meetings, first Tuesday of each month. Annual Meeting, June, 1935. Fiscal year, June 1 to May 31.

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Publicity—Mrs. Charles Moore, Glasgow

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Hansel, Mrs. Robert Joseph, Mammoth Cave (moved)
Howard, Mrs. Carl Clifford, Glasgow
Payne, Miss Alice, Glasgow (new)
Tanner, Mrs. Jacob Leland, Glasgow (moved)
Turner, Mrs. Caswell C., Glasgow
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York, Mrs. Samuel R., Center (new)

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FROM THE NATIONAL NEWS LETTER

Mrs. Robert E. Fitzgerald
Wauwatosa, Wisconsin

(Continued from July Issue)

January was chosen Physical Examination Month in Texas. During this month the Auxiliary put on an intensive drive to the end that every doctor and his wife, and children have a complete physical examination. The slogan adopted for the campaign was "An inventory of my health, as well as my wealth."

The Elbert and Madison County Medical Auxiliaries in Georgia have raised $750 and $700 respectively, to forward the work of the new Child Welfare Councils.

The Woman's Auxiliary to the West Virginia Medical Association has a gen-

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One of the outstanding types of health protection, the immunization against diphtheria, smallpox, typhoid fever, etc., depends to a large extent on the personal interest of parents. Through the public health education program of the Kentucky State Department of Health, many thousands of children have been immunized.

We are aware of the fact that there are many children in every community who have not been immunized. Your Auxiliary in cooperating with the local Parent-Teachers Association can influence negligent parents to have their children protected.

Consult your physician—request that your children be immunized against communicable diseases.

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MARIETTA, PA.

eral program which is being used as much as possible by the county groups this year. It reads as follows:

1. Place HYGEIA in as many schools as possible.
2. Review an outline of HYGEIA in monthly meetings and discuss the most interesting articles.
3. Familiarize ourselves with the health laws of our state and communities and assist in carrying them out.
4. Study health education, then extend our material to other organizations.

Milwaukee County (Wisconsin) Auxiliary has sponsored a series of tours of social agencies participating in the Community Fund. This is being done in line with the general policy of Women's Crusades to educate the women of the country in the agencies which are such an important part of useful community life. The Woman's Crusade in Milwaukee is under the direction of Mrs. James Sargent, a past president of the Auxiliary.

The Milwaukee group conducted a White Elephant Sale recently which netted over $500.00. The proceeds were used for subscriptions to HYGEIA to be placed in city and rural schools, hospitals and libraries.

RADIO WAVES

Mrs. Wm. H. Emrich, Louisville, Chairman

DRAMATIZED RADIO PROGRAMS

The American Medical Association will broadcast a new type of radio program, each Tuesday at 4:00 P. M. (C.S.T.), over the Blue Network, NBC beginning October 1st. These practical and entertaining health broadcasts, in vivid dramatic form with incidental music, are being developed to show how medical emergencies are met by the doctor, the hero of the medical emergency, who is available day and night for the promotion of your health and the health of your family.

Mrs. V. E. Holcombe, Charleston, W. Va., Chairman of the Program Committee, American Medical Auxiliary, asks that we listen-in and quotes the following paragraph from a letter written to her by Dr. W. W. Bauer, Chicago, Director of Health and Public Instruction, American Medical Association.

"We hope that the Auxiliary will make every effort to arouse local interest in the program, including announcements to Women's Clubs of which individuals may be members, and, efforts to be sure that stations listed through which the program is available will take it and broadcast it—."

News From the Counties

CAMPBELL-KENTON

The initial meeting of the season is scheduled for the Campbell-Kenton Auxiliary at St. Elizabeth's Hospital, Covington, on Thursday, September 5th, when the program for the coming year will be discussed and developed. Among the subjects for consideration are the Auxiliary's plans to sponsor an open meeting on Cancer; make a more thorough study of medical economics; assist in the making of layettes and the preparation of baby food at the Kenton County Prenatal Clinic; entertain the student nurses of Speers and of St. Elizabeth's Hospitals with a musical program; and to increase the membership by asking each member to bring in one or more new members.

Dr. and Mrs. J. A. Caldwell, Southgate, spent a three weeks vacation in Michigan.

Dr. and Mrs. John Todd, Newport, have returned from their summer home in Alexandria where they spent the summer.

Mrs. B. K. Menefee, Covington, is visiting her daughter, Mrs. John Allison, and family in Gardner, Illinois.

Dr. and Mrs. C. A. Menefee, Covington, enjoyed a three-week stay at Long Lake, Michigan. They also visited Mackinac Straits and Presque Light House on Lake Huron.

Dr. and Mrs. Luther Bach, Bellevue, expect to return from Boston about October 1st. Dr. Bach has spent several months studying post-graduate work there.

Miss Pauline C. Haley is recovering from a long illness at her home, 15 Horsebranch Road, South Fort Mitchell. Temporarily, her laboratory in Covington is closed.

Mrs. Charles Baron, Covington, has been appointed one of the official instructors of the American Red Cross in Kenton County. She

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JEFFERSON COUNTY

After a summer vacation, Jefferson County is resuming its activities with new officers and new committee chairmen.

Our President, Mrs. Stephen C. McCoy, has had a busy summer naming her committee chairmen and making plans for the entertainment of guests to the State meeting. Mrs. J. Paul Keith was appointed chairman of arrangements; Mrs. Roscoe C. Adams, chairman of entertainment; Mrs. J. S. Lutz, Mrs. F. Parks Ogden and Mrs. C. G. Arnold, credentials and registration; Mrs. W. E. Fallis, the Address of Welcome; and Mrs. Harry W. Venable has charge of the Pages.

Jefferson County believes that it can boast of the youngest member in the state. She is Miss Johnanna Bertha Hancock, aged 4 months, the daughter of Dr. J. Duffy Hancock and Mrs. Hancock. Her mother was our able and beloved president in 1933-34.

We have continued our five-minute health talks over Radio Station WAVE every Thursday morning at 10:30 during the summer. Here is a list of the Louisville physicians who have taken part and their subjects.

Dr. Oscar O. Miller—"Childhood Tuberculosis."

Dr. Arch Herzer—"Vacation Health Hints."

Dr. Joseph C. Ray—"Early Diagnosis and Treatment."

Dr. Henry C. Herrmann—"X-Ray."

Dr. Walter I. Hume—"Goiter."

Dr. Philip E. Blackerby—"Economics of Child Health."

Dr. James H. Hester—"The Care of the Eyes."

Dr. Harry M. Weeter—"Preventable Diseases."

Dr. Thomas J. Crice—"The Causes of Insanity."

Dr. R. Alexander Bate—"Heredity."

Miss Charlotte Grief, Elizabethtown and Mr. Bernard D. Leachman, son of Dr. George C. Leachman and Mrs. Leachman, were united in marriage on Saturday, August 17, in St. Agnes Rectory. The Rev. Father Egbert officiated. Mr. and Mrs. Leachman left immediately after the ceremony for San Francisco, where they will reside.

The regular quarterly luncheon meeting was held at the Brown Hotel on Tuesday, September 3, with Mrs. S. C. McCoy, president in charge. A business meeting was held at 11:30 a. m. followed by a luncheon at 12:30 p. m.

SAMSON COMMUNITY HOSPITAL AUXILIARY

Extract from a letter written by Mrs. C. C. Turner, Secretary of the Samson County Community Hospital Auxiliary: "Samson Community Hospital has a very important news item for our Auxiliary Quarterly magazine. Like all organizations, our Auxiliary was not very active during the hot summer months. This inactivity, however, does not suit our President, Mrs. E. A. Barnes, Albany. So, in August, she presented our Auxiliary with a brand new baby girl, Anna Sue! We think it quite fitting that Our President should give us our first Auxiliary Baby."

"We held our regular meetings in June and July. Then, on September 3rd, met for all-day sewing at the Nurses Home, enjoyed luncheon together and held a business meeting in the afternoon."

"We take pride in having been instrumental in securing another Ad, Mammoth Cave, for the Auxiliary Quarterly."

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THE JANE TODD CRAWFORD MEMORIAL

REPORT OF JANE TODD CRAWFORD MEMORIAL COMMITTEE*

Quiet activity has featured the work of the Jane Todd Crawford Memorial Committee during the last year but increasing interest throughout the State is evident. In 9 organizations chairmen have been appointed. They are:

Calloway—Mrs. Solon Higgins, Murray
Campbell-Kenton—Mrs. Nelson A. Jett, Covington
Graves—Mrs. Herbert H. Hunt, Mayfield
Harlan—Mrs. Seymore Rowland, Cawood
Jefferson—Mrs. George A. Hendon, Louisville
Marshall—Mrs. William T. Little, Calvert City
Nelson—Mrs. Arthur D. Steeley, Bardstown
Perry—Mrs. William L. Welch, Hazard
Samson Community Hospital—Mrs. Carl C. Howard, Glasgow.

Unfortunately, a complete record of the activities of these Chairmen has not reached me but, they have been busy. A Silver Tea, given at the home of one Chairman, Mrs. Wm. L. Welch, netted a neat sum for our fund. Before various women's groups the story has been told by several of our members. Among these are the:

Woman's Club, Covington—Mrs. B. K. Menefee
Book Club, Butler—Mrs. J. M. Blades
Wives of Licking Valley Medical Society, Brooksville—Mrs. J. M. Blades
D. A. R., Bardstown—Mrs. A. D. Steely
Woman's Club, Harrodsburg—Mrs. A. T. McCormack
Woman's Club, Lancaster—Mrs. A. T. McCormack
Woman's Club, Nicholasville—Mrs. A. T. McCormack

Several of our interested friends in the Kentucky State Federation of Women's Clubs have also been telling this story, among whom are Judge Fanniebelle Sutherland, Miss Louise Morel (Honorary Member of Jefferson County Auxiliary), Mrs. Wm. T. Lafferty, Mrs. James T. Layne, Mrs. L. L. Davidson, Mrs. R. L. Durham. The latter stimulated an essay contest in the Greensburg High School and brought the winner, Miss Lou Ann Sidebottom, to Louisville, November 25, 1933, where, through the courtesy of Mr. Credo Harris, she broadcast her winning essay over radio station WHAS.

Newspaper articles giving the story, at least in part, have been published through the efforts of several, among whom I know are Mrs. J. M. Blades, and Mrs. A. D. Steely.

At A Century of Progress, Chicago, this year—as last—the American College of Surgeons through its beautiful diorama and the Mayo Clinic Foundation through its photographic exhibit, are helping to bring this story before people from everywhere.

In the vestry of this Church, near the registration booth for the physicians, you will find arranged for your study, a small exhibit consisting mostly of publications and pictures.

Dr. C. C. Howard, in-coming President of the Kentucky State Medical Association, is deeply interested in the Jane Todd Crawford Memorial Project. He has prepared a delightfully instructive, illustrated lecture including this subject and will, later in this convention, present you with a surprise that will make you very happy, as it has me. (He let Mrs. Howard and me into this secret and, as a consequence, we are both bursting with eagerness to tell you, too, but—he made us promise not to say a word!)

This year's contributions toward our share in the Memorial Fund total $34.60. This is the Auxiliary Fund, started as a nest-egg with ten women, each contributing one dollar, for a Nation-Wide Woman's Memorial to Jane Todd Crawford on September 12, 1928, during the State Annual Meeting held at Richmond when we first began to remember Jane Todd Crawford.

Our aim, as the Kentucky Auxiliary, you recall, was to raise and contribute the first One Thousand Dollars. Our fund has now reached the sum of $658.31. (See Auditor's Report, p. 108, October, 1934 issue, Woman's Auxiliary Section, Kentucky Medical Journal.) If only every woman who has been benefitted by modern surgery would contribute One Dollar toward memorializing Jane Todd Crawford, this great peace-time, sacrificial heroine would have more memorials throughout the world than the long-heralded warrior, Napoleon, who led men on to death and destruction. Unfortunately, Jane Todd Crawford and her remarkable service to humanity, through her aid in the development of what we now know as modern surgery, are little known—unknown, in fact, to most people.

THE FIRST OVARIOTOMY



Courtesy Modern Medicine, Minneapolis

From Exhibit of American College of Surgeons at A Century of Progress, Chicago, 1933-1934.

An Annual Jane Todd Crawford Day, commemorating the date of the first visit, December 13, 1809, paid to Mrs. Crawford by Dr. Ephraim McDowell in response to the call for consultation and assistance from her two attending physicians, has been suggested.

May I not recommend that every Auxiliary

*Report given at Annual Meeting, Harlan, Oct. 3, 1934.

(Continued on Page 127)

Tuberculosis

Mrs. Lucius Ernest Smith, Louisville, State Chairman

THE CHAIRMAN'S MESSAGE

The Christmas Seal Sale for 1935 is approaching. Let us all help to increase this Seal Sale.

The "Vital Statistics Bulletin," recently released by the State Department of Health, contains much food for thought. We notice a definite increase in the total number of deaths reported, (25,528 in 1933 and 30,243 in 1934). We notice also that Tuberculosis stood fourth from the top of the list as a taker of life in Kentucky last year. (It stood sixth last year in our Nation).

Looking at the figures more closely we see in the list of preventable diseases, Tuberculosis stood second from the top. However, when we take those who died from each disease in the active period of life, (10 to 50 years) we find Tuberculosis tops the list with 1,238 to its credit. Accidents came second with 1,049 deaths. Heart disease, Pneumonia, Nephritis and Cancer follow in the order named.

It might not, under some circumstances, be so alarming to have had our death rate increase last year. Times were hard and people were in distress. It might not have been so distressing to have lost 30,243 of our Kentuckians last year, but when our health leaders tell us approximately half of that vast number of deaths could, and should, have been prevented, then we have cause for alarm. We should be humiliated when we face these distressing facts.

It is bad enough to have Tuberculosis stand fourth in Kentucky when it is down to the sixth place in our Nation. It is distressing to find it second place among preventable diseases, it is alarming to note that in all diseases, between the ages of 10 and 50 (the active period of life) it is the leading cause of death, but it becomes terrifying when we remember **Tuberculosis is a preventable, controllable and curable disease.**

A few days ago a non-legal resident of Jefferson County was found to have far advanced Tuberculosis. He had taught school 35 years in Kentucky. He closed his last school January, 1935. This teacher had more than 80 grade pupils and one teacher under his care. Two months after he closed his school the Doctor pronounced him ill with Tuberculosis. He was turned over to the Kentucky Tuberculosis Association because he was ill, indigent and helpless, living under distressing conditions.

Examination showed far advanced pulmonary tuberculosis in both lungs with cavitation and a germ laden sputum. Two married daughters are now ill, (infected by him) and his 12-year old child has an active pulmonary lesion. So much for this family. What has he done to the communities where he has been trying to teach the boys and girls how to live?

We must stop this monster of Tuberculosis from wrecking our homes. We must make the public understand. Let us join the Kentucky Tuberculosis Association in its crusade against Tuberculosis and try to make our State safe for our children. Let us send the message of the Christmas Seal into every school and every home in Kentucky.

"VOICES FROM THE FIELD"

We are always grateful to hear voices from the field but we regret not hearing from every Tuberculosis Chairman each quarter.

Ballard-Carlisle group has distributed special and appropriate literature to every physician in their territory. It is wise to remind our physicians of what is going on in prevention and care of Tuberculosis. They plan to take up the Hazelwood program at their June meeting.

Though Mercer County is one of our newer groups they have done well and I am sure their enthusiasm will spread to other organizations who have not yet responded to the call from Hazelwood Sanitorium. They contributed 15 pairs of pajamas. That is one pair for each member of the organization. A fine spirit for a new organization! They were first to respond to Hazelwood's call. Every one of these members did something. 100 per cent is hard to beat!

Nelson County group is always ready to serve. They distributed literature—spread knowledge and created interest throughout the year. Their Seal Sale is only a continuation of their year-round program. The members have offered to sew and make things for Hazelwood if anyone else can furnish the material. Here is a good chance to cooperate.

Samson Community Hospital Group, covering several counties and so ably directed by Mrs. E. A. Barnes, Albany, Clinton County, has been stirring things in their district. These good folks have been busy finding and caring for folks ill with Tuberculosis. They have pushed educational programs and cooperated with health departments—paid for X-rays—had one girl in Hazelwood Hospital and kept her there until she was considered "cured." They gave a play in Albany and were able to pay off accumulated debts and buy material to send a nice box to Hazelwood. The box contained several dozen wash cloths, three dozen towels and two pairs of pajamas. Hazelwood welcomes such surprises. Go on with the good work! You have set a high mark for the rest of us!

PROCEEDINGS OF THE TWELFTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT HARLAN, KENTUCKY, OCTOBER 1-4, 1934

(Concluded From July Issue)

REPORT OF CHAIRMAN OF FINANCE COMMITTEE

In February, I sent to the President, the two Secretaries, the Treasurer and the Chairman of all Standing Committees, a letter on the back of which was typed the estimated Budget for the year. Folded within this was a typewritten statement blank. On this blank were dull instructions as to how a statement was to be made out. My letter requested that all expense accounts be sent to me by August 15th. So far, only the President's, Mrs. B. K. Menefee's, and my own statements have been signed and sent to the Treasurer.

I recommend, that to save expense, we have these statement blanks printed, 100 for the President and 1,000 for the Chairmen of Committees.

Respectfully submitted,

(Mrs. R. L.) Olive L. Collins.

REPORT OF THE EDITOR

Woman's Auxiliary Section, Kentucky Medical Journal

May I ask that each of you, please, familiarize yourselves with the Report of the Auditor, found on pages 110-112, October Quarterly and see for yourselves the fine record of our Business Manager, Mrs. Peter Guntermann.

Interest in the publication of our quarterly supplement to the Kentucky Medical Journal appears to be increasing. Thirty-six members have contributed material for our columns of reading matter. Ten have secured advertisements from 56 business firms. Fourteen individuals, mostly outside of Kentucky—as far west as California and as far east as Nova Scotia—have donated $1.00 each. We are finding that a donation of $1.00, however, pays little more than the cost of the 4 issues mailed to the donors, each year. Four County Auxiliaries—Calloway, Jefferson, Perry, Nelson—have made donations for the support of our publication. Grateful acknowledgement is hereby made of this fine co-operation.

This indicates a wider interest but we need, too, the active interest and material support of every Auxiliary member in order to make our publication the success we want it to be. We want every member to contribute to the columns of reading matter. Each of you can write and experienced authors tell us that the more you write the better you will write. The important thing is **To Write.** We also want, in fact, must have adequate financial support. It costs money to print every word. So—your financial assistance will be greatly appreciated, too. If only every member would secure an advertisement and each County Auxiliary raise some money and make a donation our money worries would be over.

Each issue of the Supplement has carried a Table of Contents on the first inside page but with the last issue, October 1934, we have introduced our first Annual Index. Although far from perfect, we believe that this index will greatly facilitate your reference work, particularly, in future years.

The Advisory Council—composed of Dr. W. E. Gardner, Dr. A. T. McCormack and Dr. V. A. Stilley—again requests that we continue with this project of publishing a quarterly supplement to the Kentucky Medical Journal during the coming year. It is gratifying to know that they approve our amateur efforts and, I am sure you agree, this approval should spur us on to greater effort and better achievement.

Respectfully submitted,

(Mrs. A. T.) Jane Teare McCormack,
Editor.

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Our Advertisers Are Sharing With Us In This Pioneer Publication

Reports From Counties

CAMPBELL-KENTON

(This is the report of my predecessor as President, Mrs. N. A. Jett, whose term of office ended at the close of our work for the year and the activities of my term have not yet begun.)

The auxiliary to the Campbell-Kenton Medical Society held nine regular and two special meetings during the year. Our program committee was very active and some very interesting meetings followed as an outcome of their efforts.

Among the programs enjoyed were: Talk on the Habits and Customs of India, given by Mrs. Dan Griffin. A review of Lloyd Douglas' book The Magnificent Obsession, comprehensively given by Mrs. Irene Schaber and a talk on Boarding Home Problems, by Miss Stella Grassle, an enthusiastic child-welfare worker of Cincinnati.

An evening each was given to sewing for the nurseries of St. Elizabeth Hospital (Kenton County) and Speers Memorial Hospital (Campbell County).

Our Annual Banquet was held April 5, 1934 at the Winson Coffee Shop Covington. The decorations were lovely Spring flowers, hand painted place cards with tiny corsages, silver candle sticks holding tall yellow tapers which shed a pale glow making radiantly beautiful everything within their light. There were short talks by several of our members followed by the speaker of the evening, Dr. Granville Hanes of Louisville, who delighted us with the talk on The Mysteries of Life, which was interspersed with many apt witticisms. The beautiful music, violin and piano, was furnished by the Misses Hafer After the program a chatty social hour was enjoyed, all joining to thank Miss Pauline Haley and her committee, who were responsible for the entire arrangements for the evening.

During the year we have lost one dear member, death claiming Miss Vera Bonar, daughter of Dr. D. S. Bonar, Newport, Ky.

Our membership and attendance remain about the same as last year, but we are hoping for an increase of both in 1934-35.

Respectfully submitted,
(Mrs. Henry Clay) Edith M. White.

HARLAN COUNTY

The Woman's Auxiliary to the Harlan County Medical Society was re-organized on May 31, 1934, with 8 members. However, since that time, we have added to our membership and now have 22 members.

We have done very little work other than meet each week, making plans and arrangements for this State Meeting. We did, however, find time to get advertisements for The Quarterly to the amount of $92.00.

Respectively submitted,
(Mrs. Wm. M.) Margaret Martin,
President.

MARSHALL COUNTY

Marshall County Auxiliary held 11 regular meetings, jointly with our Medical Society, last year. To date, we have 6 paid-up members, 4 members not having missed a single meeting.

New officers were elected in March and much interest has been shown in the work. One of our new projects this year was to interest the schools of the County in subscribing for Hygeia and for Outdoor Life, health magazines. With the aid of Dr. W. T. Little, Calvert City, we have placed Outdoor Life in all the High Schools of our County, one in McCracken County, just over the line from Marshall, and one in Livingston County High School where there is neither a County Health Unit nor an Auxiliary. Hygeia has been placed in one large High School in Marshall County but Hygeia has been read here for years.

The Campaign against Tuberculosis was greatly advanced in April by lantern slide lectures and programs given by Dr. Paul A. Turner, Louisville and Dr. W. T. Little, Calvert City.

A donation of Ten Dollars was sent to the Quarterly, our publication of which we are justly proud.

A Sewing Unit has been organized, with the approval of our Advisory Council, and plans have been made to make layettes for destitute maternity cases. These are turned over to our County Health Nurse for distribution to the

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needy. We are proud of our County Health Unit and the work it is doing and we always encourage and work with the staff in every way possible.

Many biographical sketches of our pioneer physicians have been obtained by Mrs. V. A. Stilley; our Scrap Book is being kept and we expect to do some work for the Jane Todd Crawford project next year.

Mrs. P. E. Blackerby, Louisville, was a distinguished guest at our April Meeting and gave us many helpful suggestions.

We feel fortunate in having two of our members, Mrs. V. A. Stilley, Benton, Historian, and Mrs. W. T. Little, Calvert City, Recording Secretary, on the State Auxiliary Board and we are very proud of the work they have done and express our sincere regret that we cannot be with them at the State Meeting in Harlan.

(Mrs. Wm. S.) Zora Stone, President.

NELSON

Nelson County has had a very encouraging year, and we have enjoyed working together. We have fourteen active members, which includes three new ones, one Honorary, and one State-at-Large. All dues are paid. Our fiscal year dates from November first, (Nov. 1.), to October thirty-first (Oct. 31).

Our advisory council is very helpful.

Since our annual meeting in October, we have held regular meetings every second Tuesday in each month. All committee chairmen have been active. Our chairman on Hygeia, Mrs. A. D. Steely reports four new subscriptions, and an introduction of the magazine into some of the Parent-Teacher's Associations. As chairman of Jane Todd Crawford Memorial, she is also endeavoring to acquaint the public with the story of Jane Todd Crawford, and putting the project before the Woman's Club, Parent-Teachers Associations and other women's clubs.

Our Tuberculosis chairman, Mrs. L. B. Summers reports that Nelson County netted a total of sixty-five dollars and one cent ($65.01) selling Christmas Seals in the drive for Tuberculosis work, during the Christmas season of last year. All the schools in the County were presented with literature and talks on the subject of Tuberculosis but only a few schools responded with the sale of seals. Three of the High Schools did most of the work, namely: New Haven, Bloomfield and Chaplain, while at the rural schools the children who were comfortable in clothes, and with food, helped provide these comforts for their less fortunate fellow students. New Haven graded school received a first aid kit for selling the most Christmas seals.

The Auxiliary has assisted in several clinics held in the County. A pre-school-age clinic, a clinic preparatory for May Day celebration, and a dental clinic. We have cooperated with other

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women's organizations in the advancement of health and education; also aided the doctors in their County meetings, and tried to promote acquaintanceship among their families.

From our Public Instruction Chairman comes the report of having had published in her local paper, articles (taken from the Bulletin of The State Board of Health of Kentucky) pertaining to the prevention of Scarlet Fever, Diphtheria, Typhoid Fever, etc.

The keeping of a Scrap Book was started this year. Our chairman, Mrs. Holman McCawley, has spared no time and energy in making this a very interesting and valuable piece of Auxiliary work. It contains a picture of our organizer, Mrs. G. A. Hendon, State President of 1931, also a picture of the past president, Mrs. A. T. McCormack, and one of our worthy president, Mrs. B. K. Menefee. We have also a large number of newspaper clippings pertaining to the work of our Auxiliary, and some programs and souvenirs of Convention Meetings are contained therein. We have also sent to Mrs. G. A. Hendon of Louisville, our state chairman on Archives, many newspaper clippings, and a few pictures, for the State Scrap Book.

We have been active in Historical collections. At present we have about thirty biographical sketches of physicians who were reared, practiced their profession and died in our county. Many of these were pioneers and their biographies have been sent to the State Historian, Mrs. V. A. Stilley, at Benton.

Our Auxiliary is credited with providing a Radio set sent to the Listening Center being promoted by the State University in Eastern Kentucky, to help carry on the Educational Plans for isolated communities.

Respectfully submitted,
(Mrs. J. I.) Marie Rapier Greenwell,
President.

SAMSON COMMUNITY HOSPITAL AUXILIARY

The Woman's Auxiliary to the Samson Community Hospital was organized in June, 1934, at Glasgow. The following officers were elected and installed: President, Mrs. Robert J. Hansel, Mammoth Cave; Vice-President, Mrs. Ernest A. Barnes, Albany; Secretary-Treasurer, Mrs. Caswell C. Turner, Glasgow.

The latter part of June, the President Mrs. Hansel, sent out 65 letters to the wives of the doctors of the Samson Community Hospital at Glasgow to try to interest them in the Auxiliary. At the July Meeting, Mrs. Carl C. Howard, Glasgow, gave an interesting talk on Jane Todd Crawford. In August, at the Regular meeting I read the letter from Mrs. B. K. Menefee, State President, explaining the need of furnishings for the Doctor's Shop at Harrodsburg. All members present were interested and thought they would be able to find something that would help to furnish the Doctor's Shop.

Since we are such a newly organized Auxiliary, we do not have a great deal to report this year but I hope that next year will show a great increase in numbers and in activities.

Respectfully submitted,
(Mrs. Robert J.) Vera Parkin Hansel,
President.

(Editor's Note: Shortly after writing this report, Mrs. Hansel moved away and the Vice-President, Mrs. E. A. Barnes, became President.)

REPORTS NOT FILED

The following Annual Reports from the County Auxiliaries presented verbally at the State Annual Meeting in Harlan have not yet been filed with the Recording Secretary: Ballard-Carlisle, Calloway, Graves, Jefferson, Perry. Unfortunately, therefore, these cannot be given permanent record in the published proceedings.

REPORT OF REGISTRATION AND CREDENTIALS COMMITTEE

The Woman's Auxiliary to the Kentucky State Medical Association held its twelfth Annual Meeting in the Methodist Episcopal Church, Harlan, on October 1, 2, 3, 1934, with a total attendance of 142. (Members, 97; Visitors, 43).

State Executive Board

Officers	7
Chairmen	3
County Presidents	7
Delegates	7
Alternates	3
National Officers	2
Southern Officers	1
Members	70
Visitors	40
Total	142

Forty-six counties were represented at the meeting by members and visitors, as follows: Bracken, Barren, Bell, Boyd, Campbell, Carlisle, Christian, Clark, Clinton, Daviess, Estill, Fayette, Fulton, Garrard, Grant, Graves, Grayson, Greenup, Hardin, Harlan, Harrison, Hopkins, Jefferson, Kenton, Knox, Larue, Laurel, Lawrence, Leslie, Letcher, Lincoln, McCracken, McCreary, Madison, Marion, Marshall, Mason, Mercer, Metcalfe, Nelson, Pendleton, Perry, Pike, Pulaski, Rockcastle, Warren and Whitley.

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Below is given the registration by counties:

BRACKEN		
Mrs. W. F. Haley	Brooksville	Mem.
BARREN		
Mrs. J. W. Acton	Glasgow	Vis.
Mrs. C. C. Turner	Glasgow	Del.
BELL		
Mrs. Mason Combs	Pineville	Vis.
Miss Nora Cox	Pineville	Vis.
Mrs. R. B. Maw	Pineville	Vis.
Mrs. R. B. Moss	Pineville	Vis.
BOYD		
Mrs. L. H. Winans	Ashland	Vis.
CAMPBELL		
Mrs. Luther Bach	Bellevue	(Officer)
Mrs. D. S. Bomar	Newport	Mem.
Mrs. C. W. Shaw	Alexandria	Alt.
Mrs. John Todd	Newport	Del.
CARLISLE		
Mrs. E. E. Smith	Bardwell	Co. Pres.-Del.
CHRISTIAN		
Mrs. E. P. Thomas	Hopkinsville	Vis.
CLARK		
Mrs. H. R. Henry	Winchester	Vis
CLINTON		
Mrs. Arthur E. Barnes	Albany	Co Pres.
DAVIESS		
Mrs. C. M. Rice	Owensboro	Vis.
ESTILL		
Mrs. Walter Cox	Irvine	Vis.
FAYETTE		
Miss Anna B. Sprague	Lexington	Vis.
Mrs. George P. Sprague	Lexington	Vis.
FULTON		
Mrs. J. C. Morris	Hickman	Mem.
Mrs. Hugh E. Prather	Hickman	Mem.
GARRARD		
Mrs. J. E. Edwards	Lancaster	Mem.
GRANT		
Mrs. L. H. Ellis	Williamstown	Mem.
GRAYSON		
Mrs. C. F. Blankenship	Leitchfield	Mem.
GRAVES		
Mrs. H. H. Hunt	Mayfield	Mem.
Mrs. W. J. Shelton	Mayfield	Mem.
Mrs. H. V. Usher	Sedalia	Co. Pres.
GREENUP		
Dr. Marian Marting	Greenup	Mem.
Mrs. H. T. Morris	Greenup	Mem.
HARDIN		
Mrs. C. F. Long	Elizabethtown	Mem.
Mrs. R. T. Layman	Elizabethtown	Mem.
HARLAN		
Mrs. Carl F. Abell	Harlan	Mem.
Mrs. P. W. Adkins	Harlan	Mem.
Mrs. E. W. Adkins	Harlan	Mem.
Mrs. Clark Bailey	Harlan	Del.
Mrs. Mattie M. Burkett	Harlan	Mem.
Mrs. H. C. Burkhart	Threepoint	Mem.
Mrs. H. K. Buttermore	Liggett	Mem.
Mrs. W. P. Cawood	Harlan	Mem.
Miss Louise Duffield	Harlan	Vis.
Mrs. H. H. Fuson	Harlan	Vis.
Mrs. M. L. Gunn	Harlan	Mem.
Mrs. H. S. Hodges	Alva	Mem.
Mrs. E. M. Howard	Harlan	Mem.
Mrs. P. O. Lewis	Evarts	Mem.
Mrs. W. M. Martin	Louellen	Co. Pres.
Mrs. J. W. Nolan	Harlan	Alt.
Mrs. W. R. Parks	Harlan	Mem.
Mrs. C. C. Paynter	Twilia	Mem.
Mrs. C. R. Petty	Lynch	Mem.
Mrs. B. M. Reagan	Colsplint	Mem.
Mrs. W. E. Riley	Harlan	Mem.
Mrs. C. W. Roberts	Alva	Vis
Mrs. S. H. Rowland	Cawood	Mem.
Miss Edith A. Whitcomb	Harlan	Alt.
Mrs. H. F. Whitcomb	Harlan	Vis.
HARRISON		
Mrs. J. P. Chamberlain	Cynthiana	Vis
HOPKINS		
Mrs. A. W. Davis	Madisonville	Mem.
Mrs. C. R. Morton	Madisonville	Mem.
JEFFERSON		
Mrs. Irvin Abell	Louisville	Mem.
Mrs. E. S. Allen	Louisville	Mem.
Mrs. P. E. Blackerby	Louisville	Mem.
Miss Bernice Cundiff	Louisville	Vis.
Mrs. W. E. Fallis	Louisville	Del.
Mrs. W. E. Gardner	Louisville	Mem.
Mrs. G. A Hendon	Louisville	St. Chm.
Mrs. Emmett F. Horine	Louisville	Mem.
Mrs. A. T. McCormack	Louisville	St. Chm.-Ed.
Mrs. E. R. Palmer	Louisville	St. Chm.
Mrs. John C. Rogers	Louisville	Mem.
Mrs. J. R Shacklette	Jeffersontown	Mem.
Mrs. L. Lyne Smith	Louisville	Co. Pres.
Mrs. Ulv H Smith	Louisville	Vis.
Mrs. A. C. McCarty	Louisville	Mem.
Mrs. C. L. Nichols	Louisville	Mem.
Mrs. Frank Strickler	Louisville	Mem.
Miss Mayme Sullivan	Louisville	Mem.
Dr. Lillian South Tye	Louisville	Mem.
Mrs. John D. Trawick	Louisville	Vis.
Mrs. J. P. Sanford	Louisville	Vis.
KENTON		
Mrs. L. C. Hafer	Covington	Vis.
Miss Pauline Haley	Covington	Mem.
Mrs. B. K. Menefee	Covington	St. Pres
Mrs. C. A. Menefee	Covington	Officer
Mrs. H. C. White	Covington	Co. Pres.
Miss Virginia White	Covington	Mem.
KNOX		
Mrs. John G. Tye	Barbourville	Vis.
LARUE		
Mrs. Thomas J. Poteet	Hodgenville	Mem.
LAUREL		
Mrs. G. S. Brock	London	Officer
LAWRENCE		
Mrs. L. Scott Hayes	Louisa	Mem.
LETCHER		
Mrs. C. M. Bentley	Neon	Vis.
Mrs. V. D. Bentley	Neon	Vis.
LINCOLN		
Mrs. W. B. Cunningham	Stanford	Vis.



McCRACKEN		
Mrs. H. H. Duley	Paducah	Vis.
Mrs. C. F. Haley	Brooksville	Vis.
Mrs. R. D. Harper	Paducah	Vis.
Mrs. O. R. Kidd	Paducah	Mem.
Mrs. E. B. Willingham	Paducah	Mem.
McCREARY		
Mrs. S. H. Flowers	Worley	Mem.
MADISON		
Mrs. John B. Floyd	Richmond	Mem.
Mrs. C. B. Marcum	Richmond	Vis.
Mrs. H. G. Sandlin	Richmond	Vis.
MARION		
Mrs. T. I. Campbell	Lebanon	Mem.
Mrs. O. M. Crenshaw	Lebanon	Mem.
Mrs. C. G. Thornton	Lebanon	Mem.
MARSHALL		
Mrs. W. T. Little	Calvert City	Officer
Mrs. V. A. Stilley	Benton	Officer
MASON		
Mrs. M. H. Davis	Mays Lick	Mem.
MERCER		
Mrs. T. A. Wash	Harrodsburg	Mem.
METCALFE		
Mrs. P. W. Bushong	Edmonton	Vis.
NELSON		
Mrs. J. I. Greenwell	New Haven	St. Pres.-Elect & Co. Pres.
Mrs. R. H. Greenwell	Bardstown	Mem.
Mrs. E. D. Mudd	New Haven	Mem.
Mrs. A. D. Steely	Bardstown	Del.-Ofcr.
PENDLETON		
Mrs. J. M. Blades	Butler	Mem.
PERRY		
Mrs. J. P. Boggs	Hazard	Del.
Mrs. Mary Breckenridge	Wendover	Hon. Mem.
Mrs. David Carr	Hazard	Mem
Mrs. R. L. Collins	Hazard	St. Chm.
Mrs. H. W. Giggles	Hazard	Co. Pres.
Miss Mary B. Wilford	Hyden	Mem.
PIKE		
Mrs. M. D. Flannary	Pikeville	Mem.
PULASKI		
Mrs. C. J. P. Carver	Somerset	Vis.
Mrs. E. M. Ewers	Somerset	Vis.
Mrs. Carl Norfleet	Somerset	Mem.
ROCKCASTLE		
Mrs. Walker Owens	Mt. Vernon	Mem.
WARREN		
Mrs. John Blackburn	Bowling Green	Mem.
WHITLEY		
Mrs. B. J. Edwards	Corbin	Vis.
Mrs. Elvera Gilbert	Corbin	Vis.
Mrs. J. H. Parker	Corbin	Mem.
Mrs. E. B. Stonesifer	Corbin	Mem.
FROM OTHER STATES		
Mrs. W. H. Bruce	Pennington Gap, Va.	Vis.
Mrs. Lawrence Jones	Wilmington, Del.	Nat'l Cor. Sec.
Mrs. Southgate Leigh	Norfolk, Va.	Pres. So. Med. Aux.
Miss Catherine Owens	Lancaster, O.	Vis.
Mrs. R. B. Shanklin	Gary, Va.	Past-Pres. W. Va. Aux.
Mrs. G. B. Setzler	Pennington Gap, Va.	Vis.
Miss Elsie B. Stabler	Washington, D. C.	Vis.
Mrs. Robert Tomlinson	Wilmington, Del.	Nat'l Pres.

Respectfully submitted,
(Mrs. Clark) Flora Bailey, Chairman

COME—AND—SEE TRIPS IN JEFFERSON COUNTY

Mrs. A. T. McCormack, Chairman
Mrs. J. B. Lukins, Secretary

(Concluded From July Issue)

A series of ten trips to Louisville health and welfare agencies, one each week during the Lenten Season, was planned for the Woman's Auxiliary of the Jefferson County Medical Society by Mrs. R. S. Witherspoon, Secretary of The Community Chest Speakers Bureau. Eighteen institutions or organizations were included in the program. A copy of the program was sent to every member and a card to be filled out showing intention of availing themselves of the pleasure and information derived from these trips to be remailed to the secretary. Two of the series were postponed until later. These were the Camp Taylor Health School, Hazelwood Sanitarium, and Waverly Hills Sanitarium, all caring for tuberculous patients.

Assistants to the secretary on the trip were Mrs. C. C. English, Mrs. A. T. McCormack, Mrs. John C. Rogers, and Mrs. L. Lyne Smith.

March 7, 1935

3:00 P. M. State Department of Health
532 West Main St.

Dr. A. T. McCormack, State Health Commissioner

Hosts

Dr. P. E. Blackerby, Director, Bureau County Health Units.

Dr. Jethra Hancock, Director, Bureau Venereal Disease Control.

Mr. Jas. F. Blackerby, Director, Bureau, Vital Statistics.

Dr. Annie Veach, Director, Bureau, Maternal and Child Health.

JOHN H. MILLER FUNERAL HOME
1869—1935

FROM FATHER TO SON TO DAUGHTER UNTO THE THIRD GENERATION
HAVE DESCENDED THE TRADITIONS OF THIS INSTITUTION

1617 W. Jefferson St., Louisville **Jackson 5832**

Mrs. John H. Miller, Director

Miss Margaret East, Director, Bureau, Public Health Nursing.
Mrs. John W. Kelly, Instructor, Laboratory Technician School.

We, adding Mrs. L. E. Smith to our group, came next to a big building (formerly a bank) used by the State Board of Health. The old bank vaults are used as fire-proof receptacles for birth and death records. On entering, we saw an oil painting of Dr. J. N. McCormack, first active Secretary of the State Board of Health and father of our own present Secretary of the State Department of Health, Dr. Arthur T. McCormack. We were welcomed by Dr. Jethra Hancock, Director Bureau Venereal Disease Control, and some young ladies in the Department, who presented each of us with a beautiful rose from Dr. McCormack, who was absent. Dr. P. E. Blackerby gave a brief history of the State Department of Health. Then Mr. James F. Blackerby showed us how birth and death certificates are compiled and kept. He advised us to remind our husbands always to fill out these certifiates for which they (maybe the wives!) would get twenty cents per. We were fortunate in getting to see two wonderful machines working, actually compiling and sorting statistics as if by magic. By Mrs. John W. Kelly, Instructor in the School for Technicians, we were shown how vaccines and toxoids are kept fresh and safe; specimens under the microscope; the "rabbit test"; and many interesting things in the laboratory about bacteria, blood, etc. Dr. Annie Veech, Director of the Bureau of Maternal and Child Health, talked to us about things young mothers ought to know. Our time was so limited we didn't get to hear some of the other Directors talk, except to meet Miss Margaret East, Director of Public Health Nurses, or to see parts of the building and other Bureaus Dr. Jethra Hancock wanted to show us.

Thursday, March 14
2:00 P. M. Goodwill Industries, Inc.
214 South Eighth Street
Hosts

Mr. Chauncey C. Beeman, Director
Mr. A. L. Telfer, Supervisor of Industries
Mr. Joe Lewis, Manager of Stove Department
Mrs. Chauncey C. Beeman
Miss Mattie Lee Woods
(Present, 15 members, 1 friend)

Adams, Mrs. R. C.
Bouleware, Mrs. J. P.
Crice, Mrs. T. J.
English, Mrs. C. C.
Freeman, Mrs. John K.
Garrison, Mrs. Chas. W.
Koch, Mrs. Ernst H.
Langoff, Mrs. Louise
Leachman, Mrs. Geo. C.
McCormack, Mrs. A. T.
McCoy, Mrs. S. C.
Mathewsian, Mrs. M. H.
Smith, Mr. L. Lyne
Smock, Mrs. B. W.
Stroud, Miss Grace
Tuley, Mrs. Henry Enos

Demonstration

Assembled in Chapel where Miss Mattie Lee Woods briefly sketched an outline of Goodwill activties. Founded, 1924, now has 37 industries. Is a Training School for the handicapped. Conducted on an inspection tour through entire establishment, beginning in loft where packing cases filled with summer clothes, porch furniture, etc., repaired and stored ready for sale in store on first floor as season opens. Saw Goodwill Bags emptied and sorted. Fumigation of all donations is done at night. Amazing collections of calamity of unbelievable variety! Laundry is in one corner of basement where it looked as if lost souls might find their alter ego in the little bit of this and the tiny scrap of that which had found no catalogued place elsewhere. Yet, all this junk was in order! And the tidiness and cleanliness of the place was surprising! On the four floors between, handicapped men and women, blind, deaf, dumb, lame, etc., were busily, apparently happily, at work restoring to further usefulness the broken chairs, tables, desks, beds, lamps, clocks, shoes, coats, pants, dresses, etc., that Louisville housewives had cast aside, assembling the small pieces in the heavy paper bags furnished by the institution. Bags are then collected by teams of Goodwill employees when called by phone. This salvaging of human lives along with material things is a masterly piece of work. Stove department fills lower floor of rented store across street. Settlement house is comparatively new undertaking in adjoining building which seems to fill another real need (Founded 1933) for white and colored. Boy and Girl Scouting, adult education and recreational classes. In 1934, 441 employed at Goodwill, 490 placed in outside positions—all handicapped.

J. T. M.

Goodwill Industries

Everyone should have the pleasure, as well as satisfaction, of knowing how very much good is being done in our city by the Goodwill Industries.

A group of sixteen members of the Medical Auxiliary were shown through by Mr. Chauncey C. Beeman.

Cusick
Portraits **Photography**
211 HEYBURN BLDG.

Preferred Dairy Products
Golden — Guernsey — Ice Cream
Cherokee Sanitary Milk Co.
1765 Bardstown Rd. Louisville, Ky.
Telephone High 4670

Goodwill Industries proves that every conceivable sort of old and unused thing can be made useful and used again. Shoes, clothes, furniture, stoves, papers, radios, etc. Clothes are repaired, cleaned, pressed, to be sold in the store of the Goodwill Industries on their main floor for a very small cost.

The people employed to do this reconditioning are mostly crippled, or blind. Some deaf and dumb, others are too old for outside jobs.

Mr. Beeman told us a touching little incident of what happened in the furniture department. Not enough old furniture had been sent in for the men in that department to continue working, so Mr. Beeman told them they would probably be laid off. Later that day as he passed the door of that department he heard hushed voices; on entering he found the foreman, and the men under him, on their knees in a little group praying. Praying that enough old furniture would be sent in so their jobs would not be taken from them.

Their prayers were answered, as that same evening before closing time, the Central Furniture Company called to say that they were cleaning out their warehouse and had a good many odds and ends of things the Goodwill Industries might be able to use. The men had work.

Mrs. Beeman and Miss Mattie Lee Wood served tea in their spotless Cafeteria. I'm sure all the ladies will now fill their Goodwill Bags to overflowing. M. N. E.

Thursday, March 14

3:00 P. M. Cabbage Patch Settlement
1413 South Sixth Street
Host
Miss Cornelia Steele, Head Resident.
Guides
Mrs. Cale Young Rice
Mrs. Theodore Wintersmith
Mrs. L. McBride

Present (13 members)

Boulware, Mrs. J. P.	McCoy, Mrs. S. C.
Crice, Mrs. T. J.	Mathewsian, Mrs. M. H.
English, Mrs. C. C.	Smith, Mrs. L. Lyne
Freeman, Mrs. J. K.	Smock, Mrs. B. W.
Langoff, Mrs. Louise	Stroud, Miss Grace
Leachman, Mrs. Geo. C.	Tuley, Mrs. Henry Enos
McCormack, Mrs. A. T.	

Demonstration

Group divided into three sections, each section under leadership of Guide. Guides changed three times so that each member met each Guide in tour of inspection through main buildings and inspection of overflow class rooms in the vestry of the Stuart Robinson Presbyterian Church nearby. Classes in sewing, art, and kindergarten in session. Mothers' Party in progress. Gymnasium and library in use. Good theatre equipment. No clinics in session.

Cabbage Patch Settlement was organized in 1910, by Alice Hegan Rice, (Mrs. Cale Young Rice), Louise Marshall, Fanny McCaulay, Mary H. Terry, Mrs. Bennett Young, and Mrs. John Cecil. (The publication of "Mrs. Wiggs of the Cabbage Patch" by Alice Hegan Rice occurred in 1902.) First location was on the corner of 9th near Hill Street. Here a commissary is still conducted. The object of the Settlement is to serve this industrial community, whatever the needs may be. 1330 families on the active list, March 1st, 1935.

The forty-seven activities include: Health Center and Well Baby Clinics; Employment Bureau; Sewing, Cooking, and Canning Classes; Initiation and Supervision of Gardens (103 in 1934); Grocery Store where food is retailed at wholesale prices; Second-hand Clothing Store; Conduct Recreational Center for all ages; Conduct Community Theatre (seating capacity 900) where new talent is often discovered in neighborhood dramatics. J. T. M.

Thursday, March 21

2:00 P. M. Marine Hospital
2215 Portland Avenue
Host
Dr. W. Y. Hollingsworth

Present (6 members, 1 visitor)

Mrs. J. K. Freeman	Mrs.s A. T. McCormack
Mrs. O. H. Kelsall	Miss Grace Stroud
Mrs. Geo. C. Leachman	VISITOR
Mrs. J. B. Lukins	Mrs. J. R. Dickerson

Demonstration

Dr. Hollingsworth graciously told us of Marine Hospital work, originally the only function of the United States Public Health Service. The Marine Hospitals take care of veterans, seamen, and anybody in government service. In Europe, fighting men are often cared for in civil hospitals, but in the United States the government's care of its workers is entirely separate. All immigrants are examined physically before they enter any country and, now, even before they leave their home land. The main laboratory, the National Hygiene Institute, is in Washington, D. C. There are three In-

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Louisville, Ky.

land Marine Hospitals, located in Detroit, Pittsburgh, and Louisville.

The old Marine Hospital in Louisville is one of the oldest buildings in the city, built in 1847, and now used as a home for the doctors and nurses and Superintendent of this new Marine Hospital, adjacent to the old one. At one time, the old Hospital was used as a City or General Hospital. Now, the sanitary condition of boats, trains, steamers, and the food used on them is also the responsibility of the United States Public Health Service, of which the Marine Hospitals are a branch. Two years ago this modern, well equipped hospital was built and this spring much is being done to beautify the grounds. On our tour of inspection we saw the most modern appliances, X-rays, light, and baths. There is room for 150, but only 50 patients were there then. These are often examined by the Louisville doctors and surgeons. and given the additional benefit of their skill while under the care of the doctors and nurses of the hospital service itself.

3:00 P. M. Rose Hudson Center
2509 Portland Avenue
Hostess
Miss Mary Kate Coombs
Present: The Same Group

General welfare work is done here for 1,000 to 1,500 people a month. Classes in cooking, handicraft of all types, lectures, demonstrations, theatricals, clubs, etc., are developed and maintained to fit the current needs of the community. Boy Scout and Girl Reserve Work is popular. Supported by women in the First Christian Church; by a group of thirty women at first.. Started while Dr. E. L. Powell was pastor. He was very much interested in the work. It was a well-baby clinic at 19th and Duncan before it was located at 2509 Portland.

HAMPTON'S
Graham
Crackers
contain
The Food Values Needed
By Growing Children
MADE IN LOUISVILLE
Sold By Your Grocer
The
Hampton Cracker
Company, Inc.
Louisville, Ky.

Tuesday, March 26

2:00 P. M. Detention Home
243 East Walnut Street
Hosts
Miss Martha Davis, Director Mothers' Aid
Mr. Robert C. Logan, Chief Probation Officer
Present (5 members, 8 visitors)

Mrs. S. C. McCoy	Mrs. P. H. Lony
Mrs. A. T. McCormack	Mrs. N. Martin
Mrs. O. P. Miller	Mrs. W. E. Peeke
Mrs. J. C. Rogers	Mrs. D. H. Schendler
Mrs. J. B. Lukins	Mrs. L. Wechter
VISITORS	Mrs. S. B. Wender
Mrs. Ben Ewing	Mrs. R. S. Witherspoon

Demonstration

The Auxiliary group was joined by Mrs. Witherspoon, Mrs. Ewing, wife of Judge Ewing, and six visitors from the Cochran School. Talks were given by Mr. Robert C. Logan, Chief Probation Officer, and by Miss Martha Davis. The latter's subject was "Mother's Aid." The Louisville Detention Home (located in two renovated old residences) crowded and inadequately equipped with personnel, etc., is operated under a Board appointed by the Judge of the Police Court to give temporary care to delinquent, dependent, neglected, and other children committed to it, pending final disposition by the Courts. Mothers Aid was organized in 1911 in St. Louis and here in Jefferson County in 1928. As a separate unit and by special arrangements with the Fiscal Court it received a special appropriation for the operation of this Department, one-third from the City and two-thirds from the County. Workers investigate all boarding homes referred by the Juvenile Court and report findings to the Board. Children meeting the approval of both the Board and the Juvenile Court are committed to the Home, their board paid by this Mother's Aid and their welfare still under this supervision. Private homes are preferred to Ormsby Village, the Louisville and Jefferson County Children's Home.

At the Detention Home boys under seventeen are kept and girls under eighteen. After leaving the home at that age, they are still watched over to a certain extent by the Probation Officer. Boys' Clubs are organized and occupations given them to keep them out of mischief. The misdemeanor committed by the larger number is petty thievery. Sometimes they su-

pervise as many as 4700 children in one month.

3:30 P. M. Kosair Crippled Children's Home
982 Eastern Parkway
Host
Miss Agnes O'Roke, Superintendent

To the Auxiliary group was added two more members, Mrs. Lyne Smith and Mrs. J. W. Fitzpatrick.

Miss Agnes O'Roke, the Superintendent, was our charming hostess. She told us the brief history of this, the first institution erected in the State exclusively for the care and correction of crippled children and how it is financed The active Medical Staff is comprised of orthopedic surgeons who give of their skill and time without pay. This modern new building is in the center of beautiful grounds provided with an abundance of light and fresh air, a school, a Sunday School, an occupational therapy workshop, a well-equipped brace shop, and many things other hospitals do not have for the physical development and cure of the patients. Even with their heads hanging back and on braced forms in strange uncomfortable positions, most of the little tots seemed happy. Tea was served by the hostess in a bright dining-room.

Extra-Special Trip
Juvenile Court Probation Office
Room 400—Jefferson County Court House
2:30 P. M., Thursday, March 28, 1935.
Hosts
County Judge—Hon. Ben F. Ewing
Chief Probation Officer—Mr. Robert C. Logan
Asst. Chief Probation Officer—Mrs. Dorothy Pinney

Present—Four Members

McCoy, Mrs. S. O. Rogers, Mrs. John C.
McCormack, Mrs. A. T. Smith, Mrs. L. Lyne

Demonstration

Juvenile Court, held in the office of Judge Ewing. None of the formalities of usual court procedure. Juveniles, white and colored, brought in from large waiting room, adjoining, by police officers, probation officers, parents, teachers, social workers, (or others interested in child) for misdemeanors, or some offense against the recognized social order.

Probation and investigation is done by probation officers, under supervision of Mr. Robert Logan.

Abandoned or lost children or others pending Court Hearing are housed at Detention Home until Court determines disposition.

Children can be sent by the Court to the following institutions: Louisville and Jefferson County Children's Home (Ormsby Village); Kentucky School of Reform (Greendale); Kentucky Children's Home (Lyndon). More children are sent to Ormsby Village than any other institution.

The custody of the children can be changed by the Court, if the children are proved neglected, from one parent to another, to relatives, or to private institutions.

Supervised, organized recreation would, it is believed, be of great help in preventing juvenile delinquency. Charges of parental non-support of children are brought to this court. Also problems relating to children in broken homes. Continued wilful non-support of children, frequently is punished by term at Work-House (30-60 days, usually). J. T. M.

Thursday, April 1, 1935
2:00 P. M The Children's Free Hospital
226 East Chestnut Street.
Hosts
Miss Elsie Delin, Superintendent
Miss Julia Mangrun, Assistant Operating Room Supervisor
Miss Alice Pickett, Teacher and Director of Volunteer Workers
Mrs. Robert Tafel, Social Service Director.

Present (10 members, 2 guests)

Garrison, Mrs. Chas. W. Rogers, Mrs. John C.
Keaney, Mrs. John Smith, Mrs. L. Lyne
Keaney, Miss Katherine Wright, Mrs. J. Rivers
McCormack, Mrs. A. T. VISITORS
McCoy, Mrs. S. O. Cumnock, Mrs. Walter
Miller, Mrs. Oliver P. Hikes, Mrs. A. L.
Ogden, Mrs. F. Parks

Demonstrtation

Inspection tour, conducted by Miss Delin and Miss Mangrun, throughout the building, proved highly interesting. Brief statements of history, purpose and procedure were made. The hospital is supported, fifty per cent by the Community Chest and fifty per cent by endowment. The Hospital is free, but patients may, and do, donate for services when possible. No contagious cases are admitted. There were about 60 patients at the time of this visit: 75 is approximate capacity.

An air of cleanliness, good care, effort and cheer prevailed generally. The little patients in the surgical ward, who were recovering from severe burns and from operations were brightened up, visibly, by the presence of six social workers. These workers were young High School Students who volunteer service with the Occupational Therapy Department. The College Club also sends Occupational Therapy Workers.

Attention was called to the fact that the Surgical ward was a memorial to Dr. Ap Morgan Vance, Kentucky's first Orthopedic Surgeon.

Two recent, greatly appreciated gifts were exhibited. A new X-ray equipment donated by Mrs. Frederick M. Sackett, and a new Oxygen Tent, donated by Miss Lucie Norton and niece.

The instructive talks given by Miss Delin,

Miss Mangrun and Mrs. Tafel were deeply appreciated by the visitors. J. W. R.

3:00 P. M. The Jewish Children's Home
1135 South First Street
Hosts
Miss Anna Nevils, House Mother
Mrs. Lulu Krakaur, Director Jewish Welfare Federation
Dr. A. A. Shapero, Physician in charge
Present: group listed above

Demonstration

Brief history and outline of work of Home and of the recently instituted (June, 1933) work for convalescent children in Kentucky which is still in the experimental stage of development. Patients are sent in by the City Hospital and the Children's Free Hospital. This Hospital is non-sectarian. It averages 17 white children.

The guests were impressed by the home-like atmosphere, the spotless cleanliness, and the general good medical, physical and moral care of the little patients. The play-room and the large yard, filled with play-ground equipment, are two of its outstanding features. E. S.

Thursday, April 11, 2:00 P. M.
Ormsby Village, Anchorage
Hosts
Miss Margarita Weber
Mrs. Dempsey
Miss Yount
Present (9 members and 1 visitor)

Boulware, Mrs. J. P.
Daugherty, Mrs. Frank
Emrich, Mrs. Wm. H.
Freeman, Mrs. John K.
Kelsall, Mrs. O. H.
Niehans, Mrs. E. H. (vis.)
Lukins, Mrs. J. B.
McCormack, Mrs A. T.
Peak, Mrs. J. Hunter
Smith, Mrs. L. Lyne

Ormsby Village, twelve miles east of Louisville, gives supervision, care and training to dependent, neglected, and delinquent children. There is a farm of more than 500 acres devoted to the production of vegetables, fruits, milk, and eggs to feed the children at the Detention Home in Louisville, Ormsby Village, and Ridgewood (a similar institution for colored children). Ormsby Village is supported from City and County taxes. These children are examined mentally and physically at the Detention Home and then at Ormsby Village. Foster Homes, if possible, are found. If found mentally deficient, they are sent to Greene School on the Shelbyville Road. This is a school organized to give specialized instruction to each child. There are psychological tests. About twenty specialists do all they can to correct physical and mental disabilities and defective teeth. Recreation of all kinds has a very definite place in the training course. An interesting paper is printed each week by Junior and Senior high school classes, telling of their work and recreation. Music, dramatics, public speaking and debating are important factors in the educational program. 492 children, white and colored, under supervision on this date.

3:30 P. M. Kentucky Children's Home
Lyndon, Ky.
Host
Mr. D. B. Waller
The same group present

This home is provided by a State-Wide Society for the rescue of destitute children with the object of placing them in suitable foster homes. A staff physician is in charge of the hospital and a daily clinic is held. A dentist spends one day a week caring for the children's teeth. A number of Louisville physicians give of their time and services. Out-of-door activities, school and Sunday School are enjoyed by the children. On our tour of inspection we saw some of the children arranging the tables for supper, some busy as nurses, and some busy helping in the kitchen. The younger ones sang for us. A frail little blind boy singing "Jesus Loves Me" brought tears to our eyes. This child demonstrated a remarkable ear for music, identifying musical compositions when only the first chord was played on the piano. There were 404 at the time we visited the home, twenty-five having left early that day, for Hopkinsville, under the supervision of the Rotary Club, sponsors of foster homes for them there. We went through several buildings, from the nursery to the kitchen. 1034 homes for children were found in 1934. There are five people who investigate and supervise the children in the homes after they are adopted. 3500 children, white, came under the care of this institution during the past year, 1934.

Thursday, April 16, 1935, 2:30 P. M.
Home For The Aged and Infirm, Shively
Hosts
Rev. Macon Vick, Superintendent
Mrs. Macon Vick, Matron
Mrs. E. L. Powell, Welfare Worker
Dr. C. J. Armstrong, Physician in Charge
Dr. R. A. Fike, Pharmacist in Charge
Mr. A. J. Price, Head nurse with seven assistant nurses.
One colored nurse for colored department.
Present (7 members, 2 visitors)

Kelley, Mrs. B. W.
McCormack, Mrs. A. T.
Miller, Mrs. O. P.
Ogden, Mrs. F. Parks
Rogers, Mrs. John C.
Smith, Mrs. L. L.
Stroud, Miss Grace
VISITORS
Stroebel, Mrs. A.
Webber, Mrs. Wm. V.

Demonstration

Brief history and statement of purpose, procedure and financing of work and care of patients and inmates were given by Rev. and Mrs. Macon Vick as they piloted the group from

the reception room to the business office and then throughout the buildings for white and for colored, and then over the grounds.

Great interest was shown by the guests and all the many questions were answered most courteously by the hosts.

The home is tax supported and comes under the City Welfare Department. All entrants come through the Municipal Relief Bureau. There arrive about 15 to 20 convalescent patients from the City Hospital each month. Sixty-five is the age limit for acceptance in the Home. There were, at the time of this visit, about 260 inmates (164 white and 96 colored.)

At that time, there averaged 30 employees. A number of prison laborers from the Work House were working on the farm which comprises about 307 acres. The Home has its own cows, hens and chickens.

Among the most interesting features besides, of course, the medical, dental, and drug departments, were the living quarters. There are seven dining rooms, four for white, three for colored. Of great use are the sewing-room, the men's clothing room, the laundry in the basement and the Occupational Therapy Department. Much delight was manifested by the guests over the Chapel and the attractive comfortable Recreation Room with its piano, lamps, and furnishings all donated by Church women of Louisville.

One can readily see how very much money and equipment must be needed in the care of so many problem people in such a large institution. However, this Home seemed to be unique and cheerful in spite of its handicaps.

The long, pleasant approach to the Home, the good parking space, the nice porch, the open fires glowing merrily in the front rooms, and the cheery, gallant attitude of those in charge as they "Carry On," are bound to impress the sight-seer. J. W. R.

THE JANE TODD CRAWFORD MEMORIAL

(Continued from Page 114)

organization accept this suggestion and prepare some observance in its own County on December 13th of each year, inviting and including the active interest, not only of the Auxiliary, but also of all women's groups, the newspapers, radio, and all means possible of bringing this important anniversary to the attention of the people.

Respectfully submitted,
(Mrs. A. T.) Jane Teare McCormack,
Chairman.

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■

WITH OR WITHOUT
VITAMIN D

REPORT OF THE SAN ANTONIO MEETING OF THE SOUTHERN MEDICAL AUXILIARY*

Mrs. Ellis S. Allen, Louisville, Delegate

It is both a privilege and a pleasure for me to bring you a report of the Woman's Auxiliary of the Southern Medical Association that met in San Antonio, Texas, on November 13-16, 1934.

Our retiring president, Mrs. Southgate Leigh of Norfolk, Va., called the general meeting to order on Wednesday morning at nine o'clock in the Tapestry Room of the St. Anthony Hotel. Mrs. Leigh presided with her usual dignity and gracicusness. Mrs. S. A. Collom of Texarkana, Texas, pronounced the invocation. After greetings, responses and the reading of the minutes, we had the roll call of the states. Kentucky was well represented as many of the doctors' wives had yielded to the lure of the Lone Star State and accompanied their husbands to San Antonio.

In the absence of state president, Mrs. Greenwell of New Haven, the Kentucky report was read by Mrs. E. S. Allen, of Louisville.

Mrs. S. A. Collom, chairman of the research committee rendered a real service in her carefully prepared paper, in which she gathered up from numerous sources the best ethical, moral and spiritual traditions of the medical profession and presented them in a concise and forceful way. The claims of Christ, the Great Physician on the lives of doctors was particularly emphasized in a way not easily forgotten.

Following the general meeting there was a beautifully appointed luncheon in the Cocoanut Grove situated on the roof garden of the St. Anthony Hotel where we ate some delectable Mexican dishes that we have tried in vain to reproduce in our own kitchens since.

We were addressed at this time by Dr. Walter Biering, President of the A. M. A. Des Moines Iowa, who spoke on "The Function of the Auxiliary," Dr. Ignacio Chavez, Immediate Past President, National Academy of Medicine of Mexico, talked to us about "The Doctor's Wife in Mexico."

Dr. Sam E. Thompson of Kerrville, Texas was particularly happy in his remarks as he introduced the different speakers.

The luncheon program concluded with a folk dance by a Mexican girl and boy, charming in their picturesque native costumes, which loaned a touch of color and life to a rather serious session.

The entertainment committee with their chairman, Mrs. Henry Wynekin, lived up to the best Southern standards of hospitality and left nothing undone for the pleasure of their guests.

Besides the President's reception, given in the Municipal Auditorium on Tuesday evening and the golf tournament at the Willow Springs Golf Club on Thursday, there was a tea at Sunset Hill, the beautiful home of Dr. and Mrs. D. T. Atkerson, and a ranch party at the Municipal Auditorium that night.

We will long remember the drive to the historic missions of San Antonio. We began at the Alamo which has been church-hospital and convent and finally fort and which is now one of the oldest and most famous buildings on the North American continent, with its close connection with Texas struggle for independence. It was the scene of one of the world's most desperate, most heroic and tragic military engagements which has been called the Thermopolae of America.

After visiting the other missions, each with its own points of interest we wound up at the mansion of the old Spanish governors, who ruled Texas so many decades ago. Here we were served tea in the true Spanish fashion, with those delicious paper thin cakes for which they are famous. It was most welcome too, as a rain and cold wind had blown up to chill our blood and whet our appetites. Between showers we wandered around the quaint enclosed garden and back again into the rambling old building whose recesses seemed haunted with the memories of those old grandees who had loved and fought and died within its romantic walls and who were the exponents of a civilization whose history is already dimmed by time.

It was with an effort that we shook off the magic spell that had held us and faced the fact that we were still in twentieth century America and in one of her modern and progressive cities, for the eleventh annual meeting of the Woman's Auxiliary of the Southern Medical Association had come to a close, to meet again in St. Louis in 1935, under the leadership of our new president, Mrs. J. Bonar White, of Atlanta, Georgia.

There was nothing left to do but to rush around to the shops to get a few more souvenirs to carry home to the children, pack our bags and catch our train for home, unless we happened to be among the fortunate ones who prolonged their vacation in order to take the trek down the world famed valley to Old Mexico.

Respectfully submitted,

(Mrs. E. S.) Nancy A. Allen.

*Presented at 13th Annual Meeting Woman's Auxiliary, Kentucky State Medical Association, Louisville, October 2, 1935.

Culture. Being a citizen of the universe, not only of one or two fragments of space time: an understanding of human society as a whole; the ability to estimate wisely the ends that communities should pursue, and to see the present in relation to past and future.—Bertrand Russell.

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